

A.1.a Conduct of operations ADMIN RO**TITLE: Evaluate Inoperable Plant Computer Based Alarm Functions**EVALUATION LOCATION: X CLASS ROOMPROJECTED TIME: 25 MIN SIMULATOR IC NUMBER: N/A ALTERNATE PATH TIME CRITICAL PRA **JPM DIRECTIONS:**

1. Initiation of task may be in group setting, evaluation performed individually upon completion.
2. Provide student with HANDOUT pages and sign off applicable steps already completed. Procedures provided will be:
 - STP-37.0 version 25.1
 - COLR Figure 3 for FNP UNIT 1 CYCLE 25
 - Picture of DRPI and group rod indication
 - Picture of Yokagawa delta flux recorder.
3. Allow student time to review data.
4. Student will have access to the computer for material purposes. Access will be limited to the exam log in and **NO** internet access or lesson plan material can be accessed.
5. Requiring the examinee to acquire the required materials may or may not be included as part of the JPM.

TASK STANDARD: Upon successful completion of this JPM, the examinee will:

- Correctly assess and determine if STP-37.0 Acceptance Criteria is met.

Examinee:		
Overall JPM Performance:	Satisfactory <input type="checkbox"/>	Unsatisfactory <input type="checkbox"/>
Evaluator Comments (attach additional sheets if necessary)		

EXAMINER: _____

Developer	Aaron Forsha	Date: 2/13/2013
NRC Approval	SEE NUREG 1021 FORM ES-301-3	

CONDITIONS

When I tell you to begin, you are to complete the **Evaluate Inoperable Plant Computer Based Alarm Functions**. The conditions under which this task is to be performed are:

- a. Unit 1 is Mode 1 and stable at 80% power.
- b. The Plant Computer became Inoperable twenty (20) minutes ago and is not expected to return for five (5) more hours.
- c. Another operator will record data for Appendix 3 of STP-37.0.
- d. Target Flux for 80% power is -2.00%

Your task is to complete the steps listed below of STP-37.0, POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE), using the data provided.

1. Step 5.1, to include step 5.1.2 and 5.1.3
2. Step 5.2 to include 5.2.1, 5.2.3 and 5.2.4.
3. Fill out the Acceptance Criteria table.

INITIATING CUE: "You may begin."

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
_____ START TIME		
1. (step 5.1.2) Record Initial Rod Data	Records Initial Data on Appendix 1	S / U
*2. (step 5.1.3) Determine if rod data meets acceptance criteria.	Evaluates rod data and determines that Acceptance Criteria is met.	S / U
3. (step 5.2.1) Record Initial AFD Data	Records Initial Data on Appendix 2	S / U
4. (step 5.2.3) Determine acceptance criteria of AFD from COLR.	Using Figure 3 of the COLR determines AFD limits. Tolerance allowed: -18 to -19.8	S / U
*5. (step 5.2.3) Check Acceptance Criteria satisfied and initial Appendix 2	Determines channels 1, 2 and 3 are in the unacceptable region. Channel 4 is in the acceptable range. Critical task is to determine that Acceptance criteria is NOT met	S / U

EVALUATION CHECKLIST**ELEMENTS:****STANDARDS:****RESULTS:
(CIRCLE)**

6. (step 5.2.4) Report **Acceptance criteria is NOT met** to SS.

Reports to Shift Supervisor STP results. (Cue Shift Supervisor acknowledges)

S / U

 STOP TIME

Terminate when Tech Spec requirements are provided.

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

1. FNP-1-STP-37.0 Ver 25.1
2. COLR Unit 1 – Cycle 25
3. K/A: G2.1.37 RO 4.3 SRO 4.6

GENERAL TOOLS AND EQUIPMENT:

COLR, STP-37.0

Critical ELEMENT justification:

Part 1 KEY

	ACCEPTANCE CRITERIA	
Step 5.1.3 (Rods)	MET	NOT MET
Step 5.2.3 (Flux)	MET	NOT MET


STEP**Evaluation**

1. **Not critical:** This information is given in conditions.
2. **Critical:** This is the assigned task, results must be accurate.
3. **Not critical:** This information is given in conditions.
4. **Critical:** Accurately evaluating COLR is required to establish correct Acceptance Criteria.
5. **Critical:** This is the assigned task, results must be accurate.

6. **Not critical:** Notification step only.

COMMENTS:

KEY

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 5 of 11	

1.0 Purpose

To provide a means of determining and logging axial flux difference and rod position indication operability.

2.0 Acceptance Criteria

- 2.1 The indicated Axial Flux Difference (AFD) shall be maintained within the limits of the COLR.
- 2.2 All shutdown and control rod position indicator channels and the demand position indication system shall be operable and capable of determining the control rod positions within ± 12 steps.

~~3.0~~ Initial Conditions

- ~~3.1~~ The version of this procedure has been verified to be the current version.
(OR 1-98-498)
- ~~3.2~~ This procedure has been verified to be the correct unit for the task.
(OR 1-98-498).
- ~~3.3~~ The plant is in Mode 1 or 2
- ~~3.4~~ One of the following conditions requires performance of this test:
 - The plant computer is inoperable, and the inoperability is approaching 1 hour.
 - Main Control Board Annunciator FF5 is inoperable, or in an alarm condition, and the inoperability is approaching 1 hour.
 - Main Control Board Annunciator FC4 is inoperable, or in an alarm condition, and the inoperability is approaching 1 hour.

- ~~3.5~~ Record date/time condition entered requiring performance of this test.


Date today Time 20 min ago

~~4.0~~ Precautions and Limitations

- ~~4.1~~ IF the plant computer goes out of service, THEN annunciators FF5 and FC4 are considered to have been inoperable. This procedure must be performed to completion.

KEY

KEY

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 6 of 11	

5.0 Instructions

NOTES

If the plant computer and annunciator FF5 is returned to service within one hour step 5.1 is N/A. ☒

FSAR Section 15.2.3.1 states "If the rod deviation alarm is not operable, the operator is required to log the RCCA positions in a prescribed time sequence to confirm alignment." Within one hour was picked as a conservative and realistic time frame to take this action. ☒

If necessary, additional copies of Appendix 1, 2 or 3 may be attached, as required, until the computer is declared operable. ☒

5.1 IF annunciator FF5, COMP ALARM ROD SEQ/DEV OR PR FLUX TILT, is inoperable either due to the computer being inoperable or due to some other cause, THEN perform the following:


5.1.1 Closely monitor individual rod position during control rod movement to ensure correct rod control system and control rod position indicator response. (NSAL-93-007) PK

5.1.2 Within one hour record current power level, bank demand position, and individual rod position, and every four (4) hours there after until the computer and the alarm are declared operable. (Appendix 1) PK

5.1.3 Check that Acceptance Criteria is met and initial Appendix 1 in the space provided. Inform Shift Supervisor of any readings not meeting Acceptance Criteria. PK

KEY

KEY

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 7 of 11	

NOTES

If the plant computer and annunciator FC4 is returned to service within one hour step 5.2 is N/A. ☒

The ITS AFD surveillance frequency of seven days is considered adequate based on AFD being monitored by the computer and any deviation from requirements is alarmed. Within one hour to take initial compensatory actions is considered conservative and realistic. The old requirement to log AFD once per hour when the alarm is inoperable has been deleted. ☒

5.2 IF annunciator FC4, DIFF FLUX DEV ALERT, is inoperable due to the computer being inoperable or to some other cause, AND power is greater than 50%, THEN record axial flux difference for each operable excore channel as follows, and inform Shift Supervisor of any readings not meeting Acceptance Criteria.

5.2.1 Record INITIAL DATA within one hour of the computer or the alarm being declared inoperable. (Appendix 2) BK

5.2.2 Every four hours record current target value and axial flux difference until the computer and annunciator FC4 are declared operable. (Appendix 2) BK

5.2.3 Check Acceptance Criteria satisfied and initial Appendix 2 in space provided. BK

5.2.4 Inform Shift Supervisor of any readings not meeting Acceptance Criteria. BK

5.2.5 WHEN the computer and the alarm are declared operable, THEN record one set of OPERABLE DATA readings of target value and axial flux difference to channel check Delta I channels. (Appendix 2) _____

NOTE

If the plant computer is returned to service within one hour step 5.3 is N/A. ☒

5.3 IF the plant computer is inoperable, THEN record power level once per hour per Appendix 3. _____

KEY

UNIT 1	<div>Procedure Number</div> <div>FNP-1-STP-37.0</div> <div>Ver</div> <div>25.1</div>
5/2/2012 14:40:31	<div>Page Number</div> <div>8 of 11</div>

Appendix 1

CAUTION

While annunciator FF5 is inoperable, closely monitor individual rod position during control rod movement to ensure correct rod control system and control rod position indicator response. (NSAL-93-007) ☐

Time	Time																			
Rx Power	80%																			
Rod No.	222	228	230	Other	222	228	230	Other	222	228	230	Other	222	228	230	Other	222	228	230	Other
CB A Demand	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B Demand	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C Demand	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB D Demand	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
S/D A Demand	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
S/D B Demand	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB A F2	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB A B10	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB A K14	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB A P6	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB A K2	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB A B6	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB A F14	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB A P10	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B F4	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B D10	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B K12	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B M6	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B K4	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B D6	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B F12	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB B M10	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C D4	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C D12	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C M12	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C M4	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C H6	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C F8	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C H10	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
CB C K8	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]

UNIT 1	<div> <div>Procedure Number</div> <div>FNP-1-STP-37.0</div> </div> <div> <div>Ver</div> <div>25.1</div> </div>
5/2/2012 14:40:31	<div> <div>Page Number</div> <div>9 of 11</div> </div> <div>POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)</div>

Appendix 1, continued

Rod No.	222	228	230	Other	222	228	230	Other	222	228	230	Other	222	228	230	Other	222	228	230	Other
CB D H2	[]	[]	[]	150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D B8	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D H14	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D P8	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D F6	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D F10	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D K10	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D K6	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
S/D A G3	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A C9	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A J13	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A N7	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A J3	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A C7	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A G13	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A N9	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B E5	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B E11	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B L11	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B L5	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B G7	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B G9	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B J9	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B J7	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		

ACCEPTANCE CRITERIA

All Shutdown and Control Rod position indicator channels and the demand position indication system are operable and capable of determining control rod positions within ± 12 steps.

Acceptance Criteria met: (initials)	<u>BT</u>	_____	_____	_____	_____	_____
-------------------------------------	-----------	-------	-------	-------	-------	-------

Record data every four hours, per step 5.1.2

This page is intentionally blank.

HANDOUT

CONDITIONS

When I tell you to begin, you are to complete the **Evaluate Inoperable Plant Computer Based Alarm Functions**. The conditions under which this task is to be performed are:


- a. Unit 1 is Mode 1 and stable at 80% power.
- b. The Plant Computer became Inoperable twenty (20) minutes ago and is not expected to return for five (5) more hours.
- c. Another operator will record data for Appendix 3 of STP-37.0.
- d. Target Flux for 80% power is -2.00%

Your task is to complete the steps listed below of STP-37.0, POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE), using the data provided.

1. Step 5.1, to include step 5.1.2 and 5.1.3
2. Step 5.2 to include 5.2.1, 5.2.3 and 5.2.4.
3. Fill out the Acceptance Criteria table.

Circle your answer below

	ACCEPTANCE CRITERIA	
Step 5.1.3 (Rods)	MET	NOT MET
Step 5.2.3 (Flux)	MET	NOT MET

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 1 of 11	

S
A
F
E
T
Y


POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)

R
E
L
A
T
E
D

PROCEDURE LEVEL OF USE CLASSIFICATION PER NMP-AP-003	
CATEGORY	SECTIONS
Continuous:	ALL
Reference:	NONE
Information:	NONE


Approved By: David L Reed (for)
Operations Manager

Effective Date: April 8, 2012

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 2 of 11	

SURVEILLANCE TEST REVIEW SHEET

SURVEILLANCE TEST NO. FNP-1-STP-37.0		TECHNICAL SPECIFICATION REFERENCE SR 3.2.3.1 Bases, FSAR 15.2.3	
TITLE POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)		MODE(S) REQUIRING TEST: 1, 2	
<u>TEST RESULTS</u> (TO BE COMPLETED BY TEST PERFORMER)			
PERFORMED BY _____ / _____ DATE/TIME _____ (PRINT) (SIGNATURE)			
COMPONENT OR TRAIN TESTED (if applicable) _____			
<input type="checkbox"/> ENTIRE STP PERFORMED		<input type="checkbox"/> FOR SURVEILLANCE CREDIT	
<input type="checkbox"/> PARTIAL STP PERFORMED		<input type="checkbox"/> <u>NOT</u> FOR SURVEILLANCE CREDIT	
REASON FOR PARTIAL: _____			
TEST COMPLETED: <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory			
<input type="checkbox"/> The following deficiencies occurred: _____ _____			
<input type="checkbox"/> Corrective action taken or initiated: _____ _____ _____			
<u>SHIFT SUPERVISOR/ SHIFT SUPPORT SUPERVISOR REVIEW</u>			
<input type="checkbox"/> Procedure properly completed and satisfactory per step 9.1 of FNP-0-AP-5.0.			
<input type="checkbox"/> Comments: _____ _____			
REVIEWED BY _____ / _____ DATE _____ (PRINT) (SIGNATURE)			
ENGINEERING SUPPORT GROUP SCREENING (IF APPLICABLE)			
SCREENED BY _____ DATE _____			
<input type="checkbox"/> Comments: _____ _____			

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 3 of 11	

Procedure Version Description

Version Number	Version Description
25.0	Updated procedure to requirements of NMP-AP-002, SNC FLEET PROCEDURES WRITERS GUIDE.
25.1	Updated ARO Rod Height from 227 to 230 for Fuel Cycle 25.



UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 4 of 11	

Table of Contents

	<u>Page</u>
1.0 Purpose.....	5
2.0 Acceptance Criteria.....	5
3.0 Initial Conditions.....	5
4.0 Precautions and Limitations	5
5.0 Instructions.....	6
Appendix 1	8
Appendix 2	10
Appendix 3	11

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 5 of 11	

1.0 Purpose

To provide a means of determining and logging axial flux difference and rod position indication operability.

2.0 Acceptance Criteria

- 2.1 The indicated Axial Flux Difference (AFD) shall be maintained within the limits of the COLR.
- 2.2 All shutdown and control rod position indicator channels and the demand position indication system shall be operable and capable of determining the control rod positions within ± 12 steps.

~~3.0~~ Initial Conditions

- ~~3.1~~ The version of this procedure has been verified to be the current version.
(OR 1-98-498)
- ~~3.2~~ This procedure has been verified to be the correct unit for the task.
(OR 1-98-498).
- ~~3.3~~ The plant is in Mode 1 or 2
- ~~3.4~~ One of the following conditions requires performance of this test:
 - The plant computer is inoperable, and the inoperability is approaching 1 hour.
 - Main Control Board Annunciator FF5 is inoperable, or in an alarm condition, and the inoperability is approaching 1 hour.
 - Main Control Board Annunciator FC4 is inoperable, or in an alarm condition, and the inoperability is approaching 1 hour.

- ~~3.5~~ Record date/time condition entered requiring performance of this test.

Date today Time 20 min ago

~~4.0~~ Precautions and Limitations


- ~~4.1~~ IF the plant computer goes out of service, THEN annunciators FF5 and FC4 are considered to have been inoperable. This procedure must be performed to completion.

PK

PK

PK

PK

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 6 of 11	

5.0 Instructions

NOTES

If the plant computer and annunciator FF5 is returned to service within one hour step 5.1 is N/A. ☒

FSAR Section 15.2.3.1 states "If the rod deviation alarm is not operable, the operator is required to log the RCCA positions in a prescribed time sequence to confirm alignment." Within one hour was picked as a conservative and realistic time frame to take this action. ☒

If necessary, additional copies of Appendix 1, 2 or 3 may be attached, as required, until the computer is declared operable. ☒


5.1 IF annunciator FF5, COMP ALARM ROD SEQ/DEV OR PR FLUX TILT, is inoperable either due to the computer being inoperable or due to some other cause, THEN perform the following:

5.1.1 Closely monitor individual rod position during control rod movement to ensure correct rod control system and control rod position indicator response. (NSAL-93-007)

5.1.2 Within one hour record current power level, bank demand position, and individual rod position, and every four (4) hours there after until the computer and the alarm are declared operable. (Appendix 1)

5.1.3 Check that Acceptance Criteria is met and initial Appendix 1 in the space provided. Inform Shift Supervisor of any readings not meeting Acceptance Criteria.

PK

UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-37.0 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 7 of 11

NOTES

If the plant computer and annunciator FC4 is returned to service within one hour step 5.2 is N/A. ☐

The ITS AFD surveillance frequency of seven days is considered adequate based on AFD being monitored by the computer and any deviation from requirements is alarmed. Within one hour to take initial compensatory actions is considered conservative and realistic. The old requirement to log AFD once per hour when the alarm is inoperable has been deleted. ☐

5.2 IF annunciator FC4, DIFF FLUX DEV ALERT, is inoperable due to the computer being inoperable or to some other cause, AND power is greater than 50%, THEN record axial flux difference for each operable excore channel as follows, and inform Shift Supervisor of any readings not meeting Acceptance Criteria.

5.2.1 **Record** INITIAL DATA within one hour of the computer or the alarm being declared inoperable. (Appendix 2) _____

5.2.2 Every four hours **record** current target value and axial flux difference until the computer and annunciator FC4 are declared operable. (Appendix 2) _____

5.2.3 **Check** Acceptance Criteria satisfied and initial Appendix 2 in space provided. _____


5.2.4 **Inform** Shift Supervisor of any readings not meeting Acceptance Criteria. _____

5.2.5 WHEN the computer and the alarm are declared operable, THEN **record** one set of OPERABLE DATA readings of target value and axial flux difference to channel check Delta I channels. (Appendix 2) _____

NOTE

If the plant computer is returned to service within one hour step 5.3 is N/A. ☐

5.3 IF the plant computer is inoperable, THEN **record** power level once per hour per Appendix 3. _____


UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 8 of 11	

Appendix 1

CAUTION

While annunciator FF5 is inoperable, closely monitor individual rod position during control rod movement to ensure correct rod control system and control rod position indicator response. (NSAL-93-007) ☐

Time						
Rx Power						
Rod No.	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other
CB A Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB D Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
S/D A Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
S/D B Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A F2	[] []	[] []	[] []	[] []	[] []	[] []
CB A B10	[] []	[] []	[] []	[] []	[] []	[] []
CB A K14	[] []	[] []	[] []	[] []	[] []	[] []
CB A P6	[] []	[] []	[] []	[] []	[] []	[] []
CB A K2	[] []	[] []	[] []	[] []	[] []	[] []
CB A B6	[] []	[] []	[] []	[] []	[] []	[] []
CB A F14	[] []	[] []	[] []	[] []	[] []	[] []
CB A P10	[] []	[] []	[] []	[] []	[] []	[] []
CB B F4	[] []	[] []	[] []	[] []	[] []	[] []
CB B D10	[] []	[] []	[] []	[] []	[] []	[] []
CB B K12	[] []	[] []	[] []	[] []	[] []	[] []
CB B M6	[] []	[] []	[] []	[] []	[] []	[] []
CB B K4	[] []	[] []	[] []	[] []	[] []	[] []
CB B D6	[] []	[] []	[] []	[] []	[] []	[] []
CB B F12	[] []	[] []	[] []	[] []	[] []	[] []
CB B M10	[] []	[] []	[] []	[] []	[] []	[] []
CB C D4	[] []	[] []	[] []	[] []	[] []	[] []
CB C D12	[] []	[] []	[] []	[] []	[] []	[] []
CB C M12	[] []	[] []	[] []	[] []	[] []	[] []
CB C M4	[] []	[] []	[] []	[] []	[] []	[] []
CB C H6	[] []	[] []	[] []	[] []	[] []	[] []
CB C F8	[] []	[] []	[] []	[] []	[] []	[] []
CB C H10	[] []	[] []	[] []	[] []	[] []	[] []
CB C K8	[] []	[] []	[] []	[] []	[] []	[] []

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 9 of 11	

Appendix 1, continued

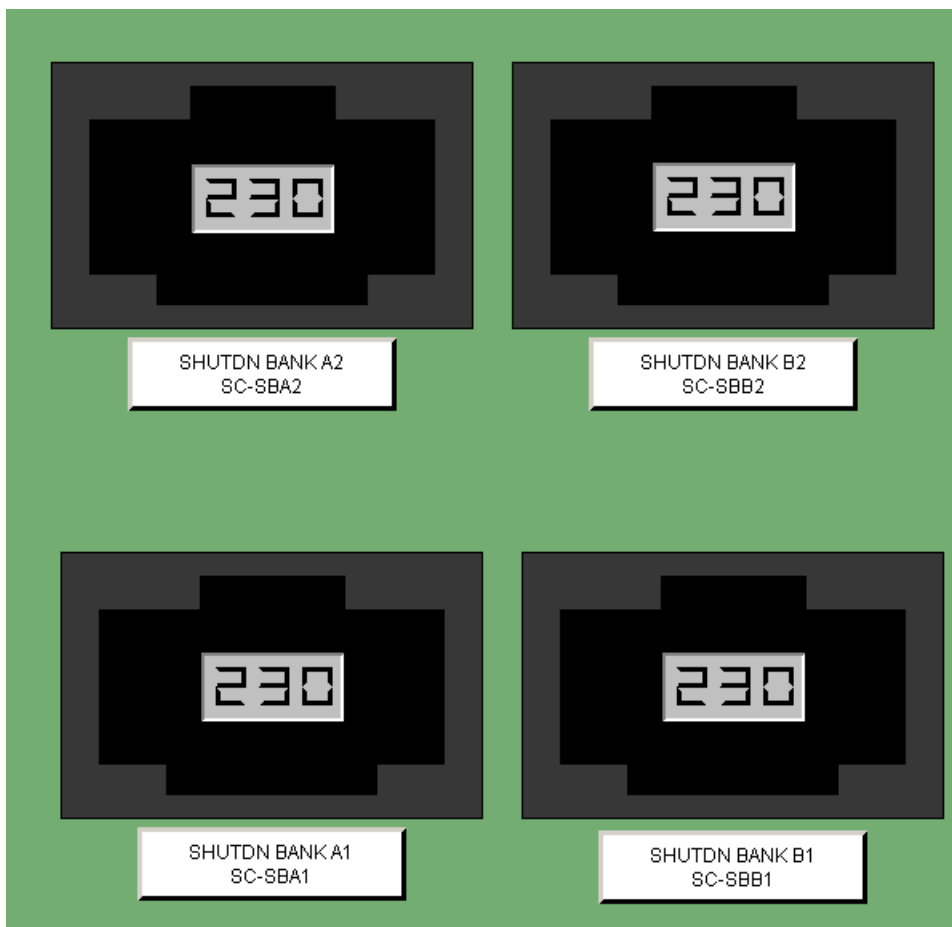
Rod No.	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other
CB D H2	[] [] []	[] []	[] []	[] []	[] []	[] []
CB D B8	[] []	[] []	[] []	[] []	[] []	[] []
CB D H14	[] []	[] []	[] []	[] []	[] []	[] []
CB D P8	[] []	[] []	[] []	[] []	[] []	[] []
CB D F6	[] []	[] []	[] []	[] []	[] []	[] []
CB D F10	[] []	[] []	[] []	[] []	[] []	[] []
CB D K10	[] []	[] []	[] []	[] []	[] []	[] []
CB D K6	[] []	[] []	[] []	[] []	[] []	[] []
S/D A G3	[] []	[] []	[] []	[] []	[] []	[] []
S/D A C9	[] []	[] []	[] []	[] []	[] []	[] []
S/D A J13	[] []	[] []	[] []	[] []	[] []	[] []
S/D A N7	[] []	[] []	[] []	[] []	[] []	[] []
S/D A J3	[] []	[] []	[] []	[] []	[] []	[] []
S/D A C7	[] []	[] []	[] []	[] []	[] []	[] []
S/D A G13	[] []	[] []	[] []	[] []	[] []	[] []
S/D A N9	[] []	[] []	[] []	[] []	[] []	[] []
S/D B E5	[] []	[] []	[] []	[] []	[] []	[] []
S/D B E11	[] []	[] []	[] []	[] []	[] []	[] []
S/D B L11	[] []	[] []	[] []	[] []	[] []	[] []
S/D B L5	[] []	[] []	[] []	[] []	[] []	[] []
S/D B G7	[] []	[] []	[] []	[] []	[] []	[] []
S/D B G9	[] []	[] []	[] []	[] []	[] []	[] []
S/D B J9	[] []	[] []	[] []	[] []	[] []	[] []
S/D B J7	[] []	[] []	[] []	[] []	[] []	[] []

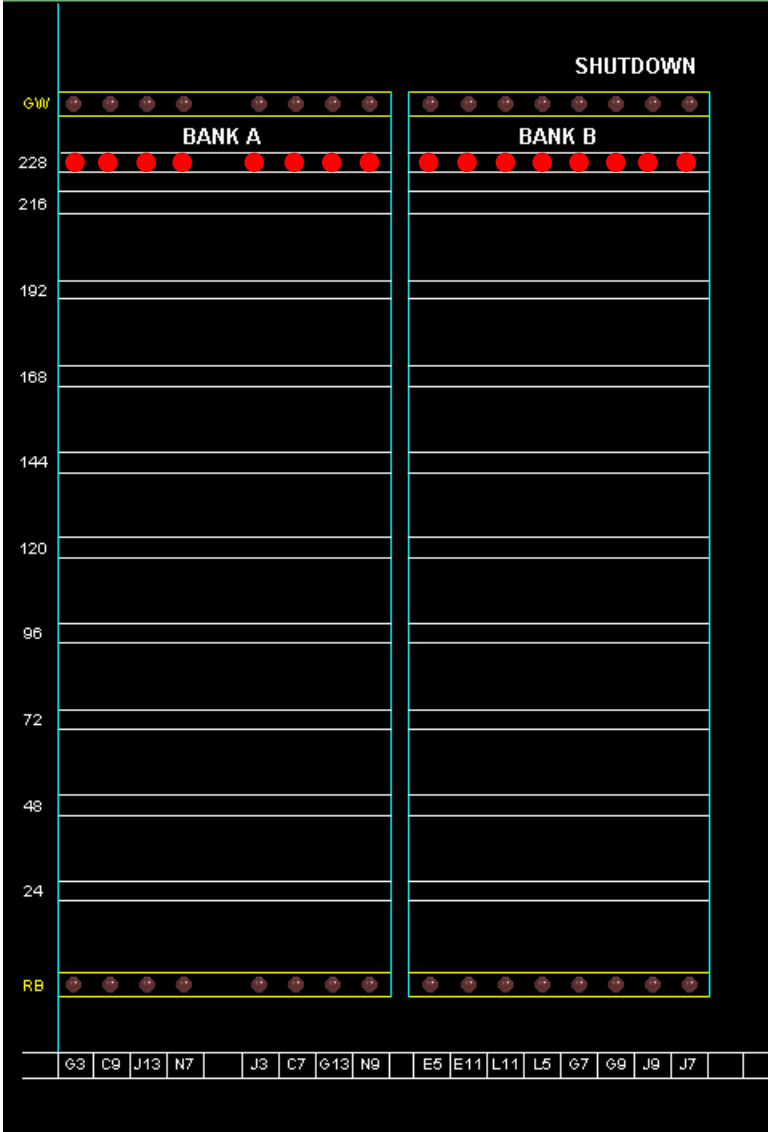
ACCEPTANCE CRITERIA

All Shutdown and Control Rod position indicator channels and the demand position indication system are operable and capable of determining control rod positions within ± 12 steps.

Acceptance Criteria met: (initials)	_____	_____	_____	_____	_____	_____
---	-------	-------	-------	-------	-------	-------

Record data every four hours, per step 5.1.2





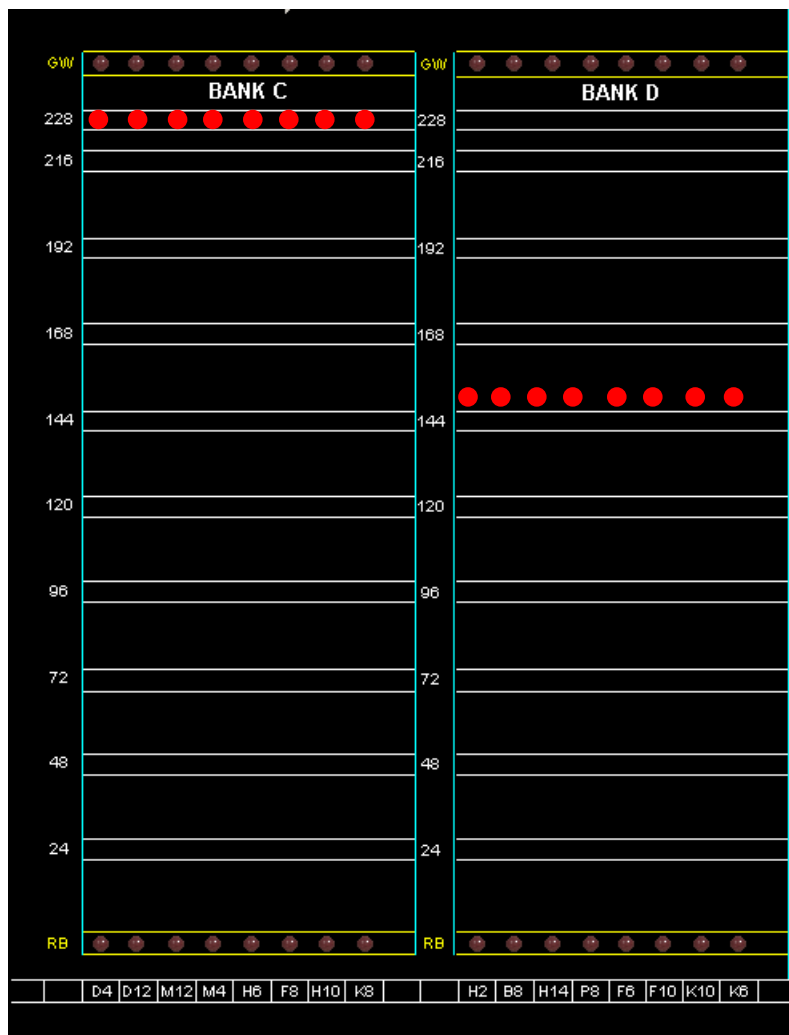
ALARMS

CONTROL

	CENTRAL CONTROL FAILURE		
1	2	3	
	URGENT ALARM		
1	2	3	
	DATA A FAILURE		
1	2	3	
	DATA B FAILURE		
1	2	3	

The diagram illustrates two memory banks, BANK A and BANK B, each with a 256-bit capacity. The bit positions are labeled on the left side of each bank, ranging from 0 to 255 in increments of 24. The top 8 bits of each 64-bit segment (bits 0-7, 64-71, 128-135, and 192-199) are marked with red dots, indicating a specific data pattern. The banks are labeled 'BANK A' and 'BANK B' at the top. The 'GW' (Global Write) line is at the top, and the 'RB' (Read Buffer) line is at the bottom. The diagram shows that the data pattern is consistent across both banks.

							F2	B10	K14	P6	K2	B6	F14	P10			F4	D10	K12	M6	K4	D6	F12	M10	
--	--	--	--	--	--	--	----	-----	-----	----	----	----	-----	-----	--	--	----	-----	-----	----	----	----	-----	-----	--



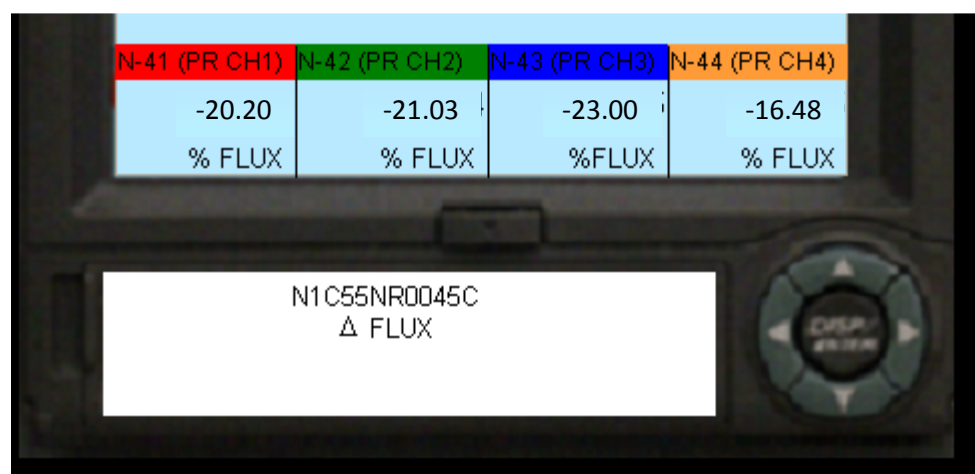
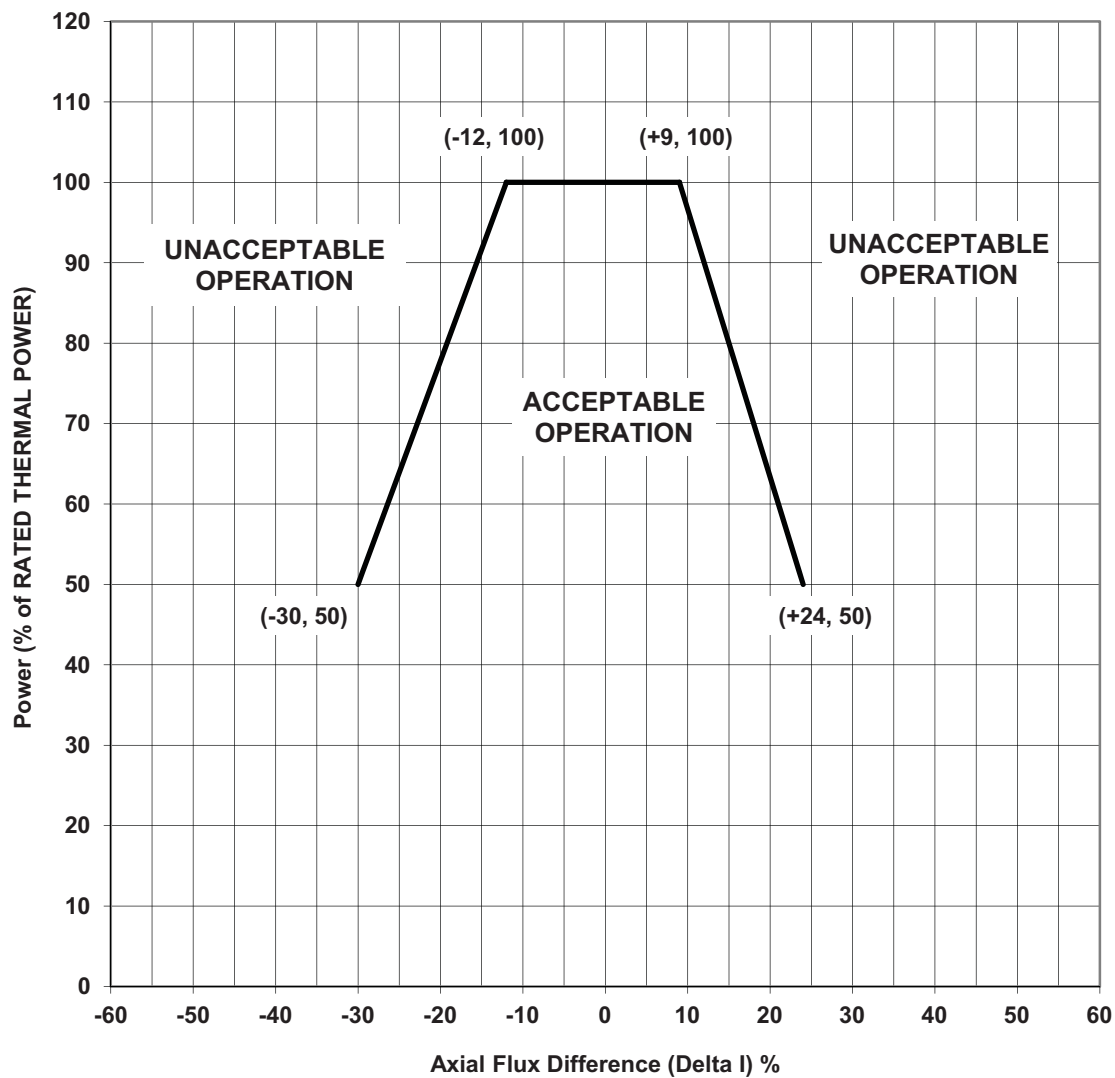


Figure 3
Axial Flux Difference Limits as a Function of
Rated Thermal Power for RAOC



A.1.a Conduct of operations ADMIN SRO**TITLE: Evaluate Inoperable Plant Computer Based Alarm Functions**EVALUATION LOCATION: X CLASS ROOMPROJECTED TIME: 25 MIN SIMULATOR IC NUMBER: N/A ALTERNATE PATH TIME CRITICAL PRA **JPM DIRECTIONS:**

1. Initiation of task may be in group setting, evaluation performed individually upon completion.
2. Provide student with HANDOUT pages and sign off applicable steps already completed.

Procedures provided will be:

- STP-37.0 version 25.1
 - COLR Figure 3 for FNP UNIT 1 CYCLE 25
 - Picture of DRPI and group rod indication
 - Picture of Yokagawa delta flux recorder.
3. Allow student time to review data.
 4. Student will have access to the computer for material purposes. Access will be limited to the exam log in and **NO** internet access or lesson plan material can be accessed.
 5. Requiring the examinee to acquire the required materials may or may not be included as part of the JPM.

TASK STANDARD: Upon successful completion of this JPM, the examinee will:

- Correctly assess and determine if STP-37.0 Acceptance Criteria is met.
- Correctly assess Tech Spec requirements.

Examinee:	
Overall JPM Performance:	Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/>
Evaluator Comments (attach additional sheets if necessary)	

EXAMINER: _____

Developer	Aaron Forsha	Date: 2/13/2013
NRC Approval	SEE NUREG 1021 FORM ES-301-3	

CONDITIONS

When I tell you to begin, you are to complete the **Evaluate Inoperable Plant Computer Based Alarm Functions**. The conditions under which this task is to be performed are:

- a. Unit 1 is Mode 1 and stable at 80% power.
- b. The Plant Computer became Inoperable twenty (20) minutes ago and is not expected to return for five (5) more hours.
- c. N-44 has been declared INOPERABLE.
- d. Another operator will record data for Appendix 3 of STP-37.0.
- e. Target Flux for 80% power is -2.00%

Your task is to complete the steps listed below of STP-37.0, POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE), using the data provided.

1. Step 5.1, to include step 5.1.2 and 5.1.3
2. Step 5.2 to include 5.2.1, 5.2.3 and 5.2.4.
3. Fill out the Acceptance Criteria table.

INITIATING CUE: "You may begin."

Part 2 – administer this portion of the JPM after completion of the above task.

JPM DIRECTIONS:

1. Provide student with **Part 2 HANDOUT** and Tech Spec 3.2.3.

CONDITIONS

Based on your previously provided conditions, evaluate Tech Spec 3.2.3 AXIAL FLUX DIFFERENCE (AFD).

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
<u> </u> START TIME		
1. (step 5.1.2) Record Initial Rod Data	Records Initial Data on Appendix 1	S / U
*2. (step 5.1.3) Determine if rod data meets acceptance criteria.	Evaluates rod data and determines that Acceptance Criteria is met.	S / U
3. (step 5.2.1) Record Initial AFD Data	Records Initial Data on Appendix 2	S / U

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
4. (step 5.2.3) Determine acceptance criteria of AFD from COLR.	Using Figure 3 of the COLR determines AFD limits. Tolerance allowed: -18 to -19.8	S / U
*5. (step 5.2.3) Check Acceptance Criteria satisfied and initial Appendix 2	Determines channels 3 and 4 are in the unacceptable region. Channel 4 is in the acceptable range. Critical task is to determine that Acceptance criteria is NOT met	S / U
6. (step 5.2.4) Report Acceptance criteria is NOT met to SS.	Reports to Shift Supervisor STP results.	S / U

Part 2 – administer this portion of the JPM after completion of the above task.

*7. Determine Tech Spec entry requirements	Evaluates Tech Specs and determine Entry into T.S. 3.2.3 AXIAL FLUX DIFFERENCE Condition A is NOT required.	S / U
--	--	-------

The reason the LCO is NOT required to be entered is due to N-44 is INOPERABLE and N-43 is outside the flux region, however N-41 & 42 are within the flux limits and per the **NOTE** The AFD shall be considered outside limits when **two or more OPERABLE** excore channels indicate AFD to be outside limits.

 STOP TIME

Terminate when Tech Spec requirements are provided.

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

Part 1 KEY

	ACCEPTANCE CRITERIA	
Step 5.1.3 (Rods)	MET	NOT MET
Step 5.2.3 (Flux)	MET	NOT MET

Part 2 KEY

Tech Spec Evaluation	
<p>YES</p> <p>Condition A is required</p>	<p>NO</p> <p>Condition A is not required</p>

GENERAL REFERENCES:

1. FNP-1-STP-37.0 Ver 25.1
2. COLR Unit 1 – Cycle 25
3. K/A: G2.1.37 RO 4.3 SRO 4.6

GENERAL TOOLS AND EQUIPMENT:


Tech Specs, COLR, STP-37.0

Critical ELEMENT justification:**STEP****Evaluation**

1. **Not critical:** This information is given in conditions.
2. **Critical:** This is the assigned task, results must be accurate.
3. **Not critical:** This information is given in conditions.
4. **Critical:** Accurately evaluating COLR is required to establish correct Acceptance Criteria.
5. **Critical:** This is the assigned task, results must be accurate.
6. **Not critical:** Notification step only.
7. **Critical:** This is the assigned task, results must be accurate. This is required since if t LCO was entered an unnecessary ramp to less than 50% power would be initiated.

COMMENTS:

KEY

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 5 of 11	

1.0 Purpose

To provide a means of determining and logging axial flux difference and rod position indication operability.

2.0 Acceptance Criteria

- 2.1 The indicated Axial Flux Difference (AFD) shall be maintained within the limits of the COLR.
- 2.2 All shutdown and control rod position indicator channels and the demand position indication system shall be operable and capable of determining the control rod positions within ± 12 steps.

~~3.0~~ Initial Conditions

~~3.1~~ The version of this procedure has been verified to be the current version.
(OR 1-98-498)

PK

~~3.2~~ This procedure has been verified to be the correct unit for the task.
(OR 1-98-498).

PK

~~3.3~~ The plant is in Mode 1 or 2

PK

~~3.4~~ One of the following conditions requires performance of this test:

PK

- The plant computer is inoperable, and the inoperability is approaching 1 hour.
- Main Control Board Annunciator FF5 is inoperable, or in an alarm condition, and the inoperability is approaching 1 hour.
- Main Control Board Annunciator FC4 is inoperable, or in an alarm condition, and the inoperability is approaching 1 hour.

~~3.5~~ Record date/time condition entered requiring performance of this test.

Date today Time 20 min ago

~~4.0~~ Precautions and Limitations

~~4.1~~ IF the plant computer goes out of service, THEN annunciators FF5 and FC4 are considered to have been inoperable. This procedure must be performed to completion.

KEY

KEY

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 6 of 11	

5.0 Instructions

NOTES

If the plant computer and annunciator FF5 is returned to service within one hour step 5.1 is N/A. ☒

FSAR Section 15.2.3.1 states "If the rod deviation alarm is not operable, the operator is required to log the RCCA positions in a prescribed time sequence to confirm alignment." Within one hour was picked as a conservative and realistic time frame to take this action. ☒

If necessary, additional copies of Appendix 1, 2 or 3 may be attached, as required, until the computer is declared operable. ☒

5.1 IF annunciator FF5, COMP ALARM ROD SEQ/DEV OR PR FLUX TILT, is inoperable either due to the computer being inoperable or due to some other cause, THEN perform the following:


5.1.1 Closely monitor individual rod position during control rod movement to ensure correct rod control system and control rod position indicator response. (NSAL-93-007) PK

5.1.2 Within one hour record current power level, bank demand position, and individual rod position, and every four (4) hours there after until the computer and the alarm are declared operable. (Appendix 1) PK

5.1.3 Check that Acceptance Criteria is met and initial Appendix 1 in the space provided. Inform Shift Supervisor of any readings not meeting Acceptance Criteria. PK

KEY

KEY

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 7 of 11	

NOTES

If the plant computer and annunciator FC4 is returned to service within one hour step 5.2 is N/A. ☒

The ITS AFD surveillance frequency of seven days is considered adequate based on AFD being monitored by the computer and any deviation from requirements is alarmed. Within one hour to take initial compensatory actions is considered conservative and realistic. The old requirement to log AFD once per hour when the alarm is inoperable has been deleted. ☒

5.2 IF annunciator FC4, DIFF FLUX DEV ALERT, is inoperable due to the computer being inoperable or to some other cause, AND power is greater than 50%, THEN record axial flux difference for each operable excore channel as follows, and inform Shift Supervisor of any readings not meeting Acceptance Criteria.

5.2.1 **Record** INITIAL DATA within one hour of the computer or the alarm being declared inoperable. (Appendix 2) BK

5.2.2 Every four hours **record** current target value and axial flux difference until the computer and annunciator FC4 are declared operable. (Appendix 2) BK

5.2.3 **Check** Acceptance Criteria satisfied and initial Appendix 2 in space provided. BK

5.2.4 **Inform** Shift Supervisor of any readings not meeting Acceptance Criteria. BK


5.2.5 WHEN the computer and the alarm are declared operable, THEN **record** one set of OPERABLE DATA readings of target value and axial flux difference to channel check Delta I channels. (Appendix 2) _____

NOTE

If the plant computer is returned to service within one hour step 5.3 is N/A. ☐

5.3 IF the plant computer is inoperable, THEN **record** power level once per hour per Appendix 3. _____

KEY

UNIT 1	<div>KEY</div> <div>Farley Nuclear Plant </div>	Procedure Number Ver FNP-1-STP-37.0 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 8 of 11

Appendix 1

CAUTION

While annunciator FF5 is inoperable, closely monitor individual rod position during control rod movement to ensure correct rod control system and control rod position indicator response. (NSAL-93-007) ☐

Time	Time					
Rx Power	80%					
Rod No.	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other
CB A Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB D Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
S/D A Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
S/D B Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A F2	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A B10	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A K14	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A P6	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A K2	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A B6	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A F14	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A P10	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B F4	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B D10	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B K12	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B M6	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B K4	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B D6	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B F12	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B M10	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C D4	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C D12	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C M12	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C M4	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C H6	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C F8	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C H10	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C K8	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []

KEY

UNIT 1	<div> <div>Procedure Number</div> <div>FNP-1-STP-37.0</div> </div> <div> <div>Ver</div> <div>25.1</div> </div>
5/2/2012 14:40:31	<div> <div>Page Number</div> <div>9 of 11</div> </div> <div> <div>POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)</div> </div>

Appendix 1, continued

Rod No.	222	228	230	Other	222	228	230	Other	222	228	230	Other	222	228	230	Other	222	228	230	Other
CB D H2	[]	[]	[]	150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D B8	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D H14	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D P8	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D F6	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D F10	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D K10	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
CB D K6	[]	[]		150	[]	[]			[]	[]			[]	[]			[]	[]		
S/D A G3	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A C9	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A J13	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A N7	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A J3	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A C7	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A G13	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D A N9	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B E5	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B E11	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B L11	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B L5	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B G7	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B G9	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B J9	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		
S/D B J7	[]	[]	/		[]	[]			[]	[]			[]	[]			[]	[]		

ACCEPTANCE CRITERIA

All Shutdown and Control Rod position indicator channels and the demand position indication system are operable and capable of determining control rod positions within ± 12 steps.

Acceptance Criteria met: (initials)	<u>BT</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
-------------------------------------	-----------	-------------------	-------------------	-------------------	-------------------	-------------------

Record data every four hours, per step 5.1.2

Part 2

HANDOUT

CONDITIONS

Based on your previously provided conditions, evaluate Tech Spec 3.2.3 AXIAL FLUX DIFFERENCE (AFD).

Circle your answer below.

Tech Spec Evaluation	
<p>YES</p> <p>Condition A is required</p>	<p>NO</p> <p>Condition A is not required</p>

3.2 POWER DISTRIBUTION LIMITS

3.2.3 AXIAL FLUX DIFFERENCE (AFD)

LCO 3.2.3 The AFD in % flux difference units shall be maintained within the limits specified in the COLR.

-----NOTE-----
The AFD shall be considered outside limits when two or more OPERABLE excore channels indicate AFD to be outside limits.

APPLICABILITY: MODE 1 with THERMAL POWER \geq 50% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. AFD not within limits.	A.1 Reduce THERMAL POWER to < 50% RTP.	30 minutes

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.3.1	Verify AFD within limits for each OPERABLE excore channel.	In accordance with the Surveillance Frequency Control Program

HANDOUT

CONDITIONS

When I tell you to begin, you are to complete the **Evaluate Inoperable Plant Computer Based Alarm Functions**. The conditions under which this task is to be performed are:


- a. Unit 1 is Mode 1 and stable at 80% power.
- b. The Plant Computer became Inoperable twenty (20) minutes ago and is not expected to return for five (5) more hours.
- c. N-44 has been declared INOPERABLE.
- d. Another operator will record data for Appendix 3 of STP-37.0.
- e. Target Flux for 80% power is -2.00%

Your task is to complete the steps listed below of STP-37.0, POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE), using the data provided.

1. Step 5.1, to include step 5.1.2 and 5.1.3
2. Step 5.2 to include 5.2.1, 5.2.3 and 5.2.4.
3. Fill out the Acceptance Criteria table.

Circle your answer below

	ACCEPTANCE CRITERIA	
Step 5.1.3 (Rods)	MET	NOT MET
Step 5.2.3 (Flux)	MET	NOT MET

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 1 of 11	

S
A
F
E
T
Y


POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)

R
E
L
A
T
E
D

PROCEDURE LEVEL OF USE CLASSIFICATION PER NMP-AP-003	
CATEGORY	SECTIONS
Continuous:	ALL
Reference:	NONE
Information:	NONE

Approved By: David L Reed (for)
Operations Manager

Effective Date: April 8, 2012

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 3 of 11	

Procedure Version Description

Version Number	Version Description
25.0	Updated procedure to requirements of NMP-AP-002, SNC FLEET PROCEDURES WRITERS GUIDE.
25.1	Updated ARO Rod Height from 227 to 230 for Fuel Cycle 25.



UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 4 of 11	

Table of Contents

	<u>Page</u>
1.0 Purpose.....	5
2.0 Acceptance Criteria.....	5
3.0 Initial Conditions.....	5
4.0 Precautions and Limitations	5
5.0 Instructions.....	6
Appendix 1	8
Appendix 2	10
Appendix 3	11

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 5 of 11	

1.0 Purpose

To provide a means of determining and logging axial flux difference and rod position indication operability.

2.0 Acceptance Criteria

- 2.1 The indicated Axial Flux Difference (AFD) shall be maintained within the limits of the COLR.
- 2.2 All shutdown and control rod position indicator channels and the demand position indication system shall be operable and capable of determining the control rod positions within ± 12 steps.

~~3.0~~ Initial Conditions

- ~~3.1~~ The version of this procedure has been verified to be the current version.
(OR 1-98-498)
- ~~3.2~~ This procedure has been verified to be the correct unit for the task.
(OR 1-98-498).
- ~~3.3~~ The plant is in Mode 1 or 2
- ~~3.4~~ One of the following conditions requires performance of this test:
 - The plant computer is inoperable, and the inoperability is approaching 1 hour.
 - Main Control Board Annunciator FF5 is inoperable, or in an alarm condition, and the inoperability is approaching 1 hour.
 - Main Control Board Annunciator FC4 is inoperable, or in an alarm condition, and the inoperability is approaching 1 hour.

- ~~3.5~~ Record date/time condition entered requiring performance of this test.

Date today Time 20 min ago

~~4.0~~ Precautions and Limitations


- ~~4.1~~ IF the plant computer goes out of service, THEN annunciators FF5 and FC4 are considered to have been inoperable. This procedure must be performed to completion.

PK

PK

PK

PK

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 6 of 11	

5.0 Instructions

NOTES

If the plant computer and annunciator FF5 is returned to service within one hour step 5.1 is N/A. ☒

FSAR Section 15.2.3.1 states "If the rod deviation alarm is not operable, the operator is required to log the RCCA positions in a prescribed time sequence to confirm alignment." Within one hour was picked as a conservative and realistic time frame to take this action. ☒

If necessary, additional copies of Appendix 1, 2 or 3 may be attached, as required, until the computer is declared operable. ☒


5.1 IF annunciator FF5, COMP ALARM ROD SEQ/DEV OR PR FLUX TILT, is inoperable either due to the computer being inoperable or due to some other cause, THEN perform the following:

5.1.1 Closely monitor individual rod position during control rod movement to ensure correct rod control system and control rod position indicator response. (NSAL-93-007)

5.1.2 Within one hour record current power level, bank demand position, and individual rod position, and every four (4) hours there after until the computer and the alarm are declared operable. (Appendix 1)

5.1.3 Check that Acceptance Criteria is met and initial Appendix 1 in the space provided. Inform Shift Supervisor of any readings not meeting Acceptance Criteria.

PK

UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-37.0 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 7 of 11

NOTES

If the plant computer and annunciator FC4 is returned to service within one hour step 5.2 is N/A. ☐

The ITS AFD surveillance frequency of seven days is considered adequate based on AFD being monitored by the computer and any deviation from requirements is alarmed. Within one hour to take initial compensatory actions is considered conservative and realistic. The old requirement to log AFD once per hour when the alarm is inoperable has been deleted. ☐

5.2 IF annunciator FC4, DIFF FLUX DEV ALERT, is inoperable due to the computer being inoperable or to some other cause, AND power is greater than 50%, THEN record axial flux difference for each operable excore channel as follows, and inform Shift Supervisor of any readings not meeting Acceptance Criteria.

5.2.1 **Record** INITIAL DATA within one hour of the computer or the alarm being declared inoperable. (Appendix 2) _____

5.2.2 Every four hours **record** current target value and axial flux difference until the computer and annunciator FC4 are declared operable. (Appendix 2) _____

5.2.3 **Check** Acceptance Criteria satisfied and initial Appendix 2 in space provided. _____


5.2.4 **Inform** Shift Supervisor of any readings not meeting Acceptance Criteria. _____

5.2.5 WHEN the computer and the alarm are declared operable, THEN **record** one set of OPERABLE DATA readings of target value and axial flux difference to channel check Delta I channels. (Appendix 2) _____

NOTE

If the plant computer is returned to service within one hour step 5.3 is N/A. ☐

5.3 IF the plant computer is inoperable, THEN **record** power level once per hour per Appendix 3. _____


UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 8 of 11	

Appendix 1

CAUTION

While annunciator FF5 is inoperable, closely monitor individual rod position during control rod movement to ensure correct rod control system and control rod position indicator response. (NSAL-93-007) ☐

Time						
Rx Power						
Rod No.	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other
CB A Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB B Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB C Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB D Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
S/D A Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
S/D B Demand	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []
CB A F2	[] []	[] []	[] []	[] []	[] []	[] []
CB A B10	[] []	[] []	[] []	[] []	[] []	[] []
CB A K14	[] []	[] []	[] []	[] []	[] []	[] []
CB A P6	[] []	[] []	[] []	[] []	[] []	[] []
CB A K2	[] []	[] []	[] []	[] []	[] []	[] []
CB A B6	[] []	[] []	[] []	[] []	[] []	[] []
CB A F14	[] []	[] []	[] []	[] []	[] []	[] []
CB A P10	[] []	[] []	[] []	[] []	[] []	[] []
CB B F4	[] []	[] []	[] []	[] []	[] []	[] []
CB B D10	[] []	[] []	[] []	[] []	[] []	[] []
CB B K12	[] []	[] []	[] []	[] []	[] []	[] []
CB B M6	[] []	[] []	[] []	[] []	[] []	[] []
CB B K4	[] []	[] []	[] []	[] []	[] []	[] []
CB B D6	[] []	[] []	[] []	[] []	[] []	[] []
CB B F12	[] []	[] []	[] []	[] []	[] []	[] []
CB B M10	[] []	[] []	[] []	[] []	[] []	[] []
CB C D4	[] []	[] []	[] []	[] []	[] []	[] []
CB C D12	[] []	[] []	[] []	[] []	[] []	[] []
CB C M12	[] []	[] []	[] []	[] []	[] []	[] []
CB C M4	[] []	[] []	[] []	[] []	[] []	[] []
CB C H6	[] []	[] []	[] []	[] []	[] []	[] []
CB C F8	[] []	[] []	[] []	[] []	[] []	[] []
CB C H10	[] []	[] []	[] []	[] []	[] []	[] []
CB C K8	[] []	[] []	[] []	[] []	[] []	[] []

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-37.0	Ver 25.1
5/2/2012 14:40:31	POWER DISTRIBUTION SURVEILLANCE (PLANT COMPUTER INOPERABLE)	Page Number 9 of 11	

Appendix 1, continued

Rod No.	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other	222 228 230 Other
CB D H2	[] [] []	[] []	[] []	[] []	[] []	[] []
CB D B8	[] []	[] []	[] []	[] []	[] []	[] []
CB D H14	[] []	[] []	[] []	[] []	[] []	[] []
CB D P8	[] []	[] []	[] []	[] []	[] []	[] []
CB D F6	[] []	[] []	[] []	[] []	[] []	[] []
CB D F10	[] []	[] []	[] []	[] []	[] []	[] []
CB D K10	[] []	[] []	[] []	[] []	[] []	[] []
CB D K6	[] []	[] []	[] []	[] []	[] []	[] []
S/D A G3	[] []	[] []	[] []	[] []	[] []	[] []
S/D A C9	[] []	[] []	[] []	[] []	[] []	[] []
S/D A J13	[] []	[] []	[] []	[] []	[] []	[] []
S/D A N7	[] []	[] []	[] []	[] []	[] []	[] []
S/D A J3	[] []	[] []	[] []	[] []	[] []	[] []
S/D A C7	[] []	[] []	[] []	[] []	[] []	[] []
S/D A G13	[] []	[] []	[] []	[] []	[] []	[] []
S/D A N9	[] []	[] []	[] []	[] []	[] []	[] []
S/D B E5	[] []	[] []	[] []	[] []	[] []	[] []
S/D B E11	[] []	[] []	[] []	[] []	[] []	[] []
S/D B L11	[] []	[] []	[] []	[] []	[] []	[] []
S/D B L5	[] []	[] []	[] []	[] []	[] []	[] []
S/D B G7	[] []	[] []	[] []	[] []	[] []	[] []
S/D B G9	[] []	[] []	[] []	[] []	[] []	[] []
S/D B J9	[] []	[] []	[] []	[] []	[] []	[] []
S/D B J7	[] []	[] []	[] []	[] []	[] []	[] []

ACCEPTANCE CRITERIA

All Shutdown and Control Rod position indicator channels and the demand position indication system are operable and capable of determining control rod positions within ± 12 steps.

Acceptance Criteria met: (initials)	_____	_____	_____	_____	_____	_____
---	-------	-------	-------	-------	-------	-------

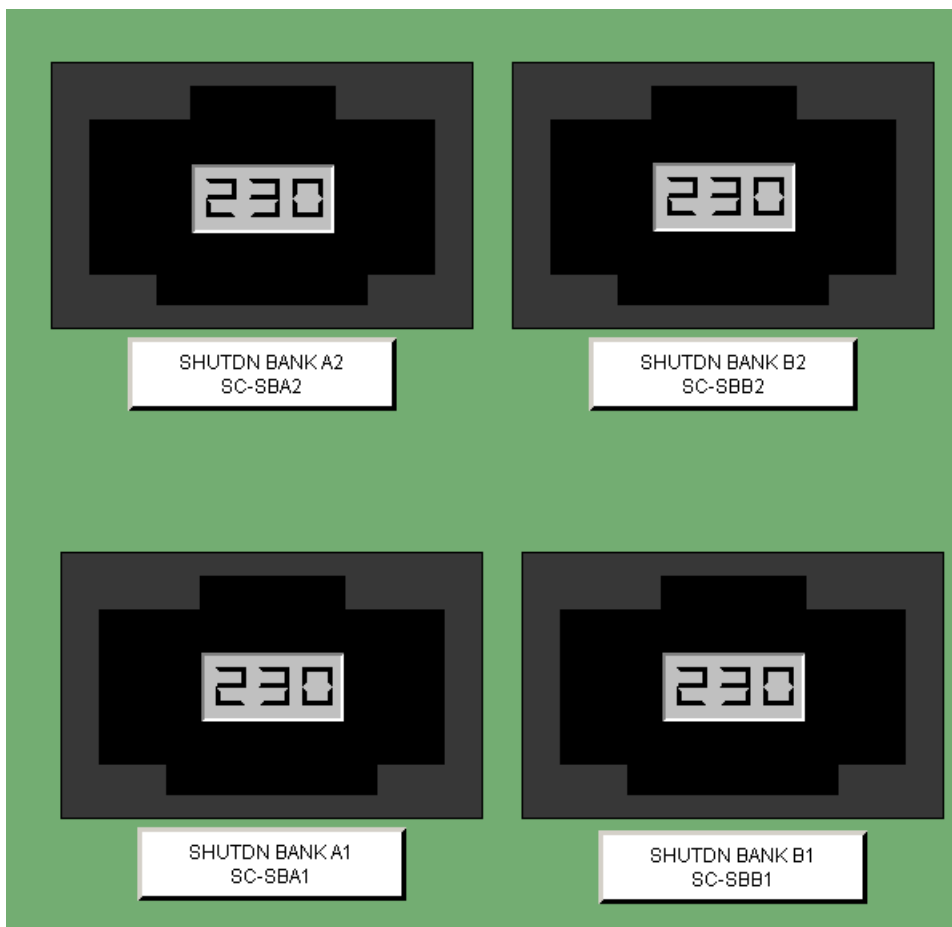
Record data every four hours, per step 5.1.2

Appendix 3 Computer Inoperable Reactor Power (%)

Date: _____

[illegible]

Record reactor power level hourly, per step 5.3



ALARMS

CONTROL

	CENTRAL CONTROL FAILURE		
1	2	3	
	URGENT ALARM		
1	2	3	
	DATA A FAILURE		
1	2	3	
	DATA B FAILURE		
1	2	3	

The diagram illustrates two parallel 256-bit banks, Bank A and Bank B, each with a 256-bit data bus and a 256-bit address bus. The banks are connected to a common 256-bit data bus and a common 256-bit address bus. The diagram shows the internal structure of the banks, including the data bus, address bus, and the internal data paths. The banks are labeled BANK A and BANK B. The diagram also shows the control signals, including the data bus, address bus, and the internal data paths. The banks are connected to a common 256-bit data bus and a common 256-bit address bus. The diagram shows the internal structure of the banks, including the data bus, address bus, and the internal data paths. The banks are labeled BANK A and BANK B. The diagram also shows the control signals, including the data bus, address bus, and the internal data paths.

							F2	B10	K14	P6	K2	B6	F14	P10				F4	D10	K12	M6	K4	D6	F12	M10	
--	--	--	--	--	--	--	----	-----	-----	----	----	----	-----	-----	--	--	--	----	-----	-----	----	----	----	-----	-----	--

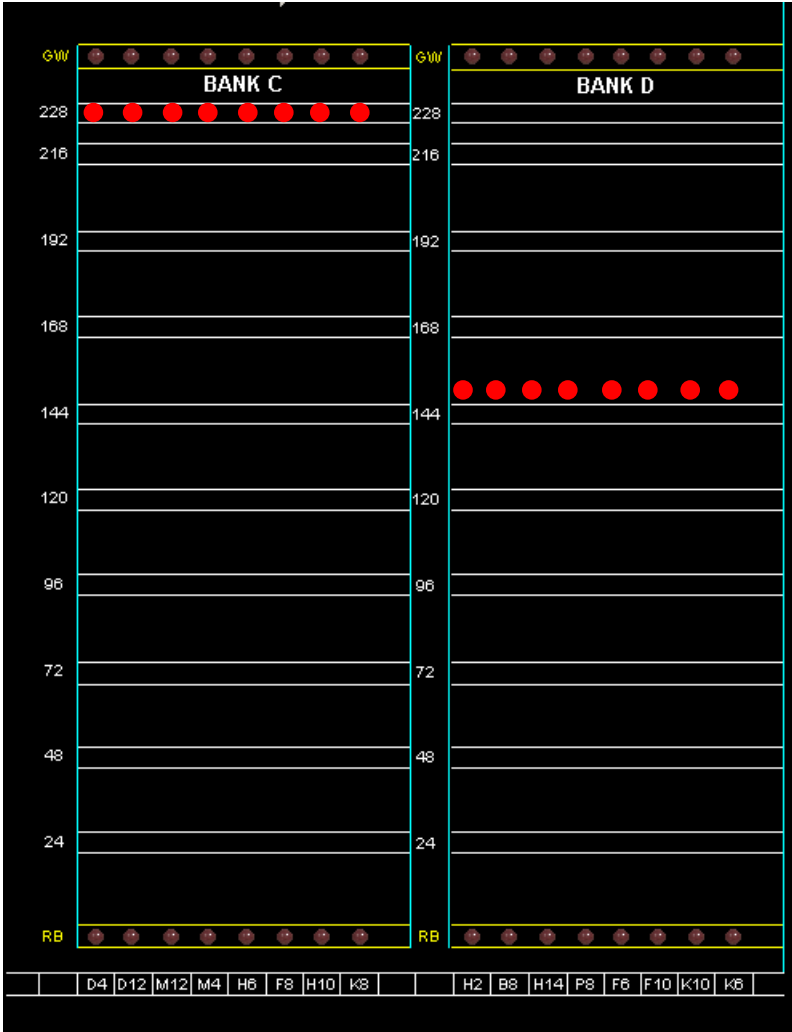
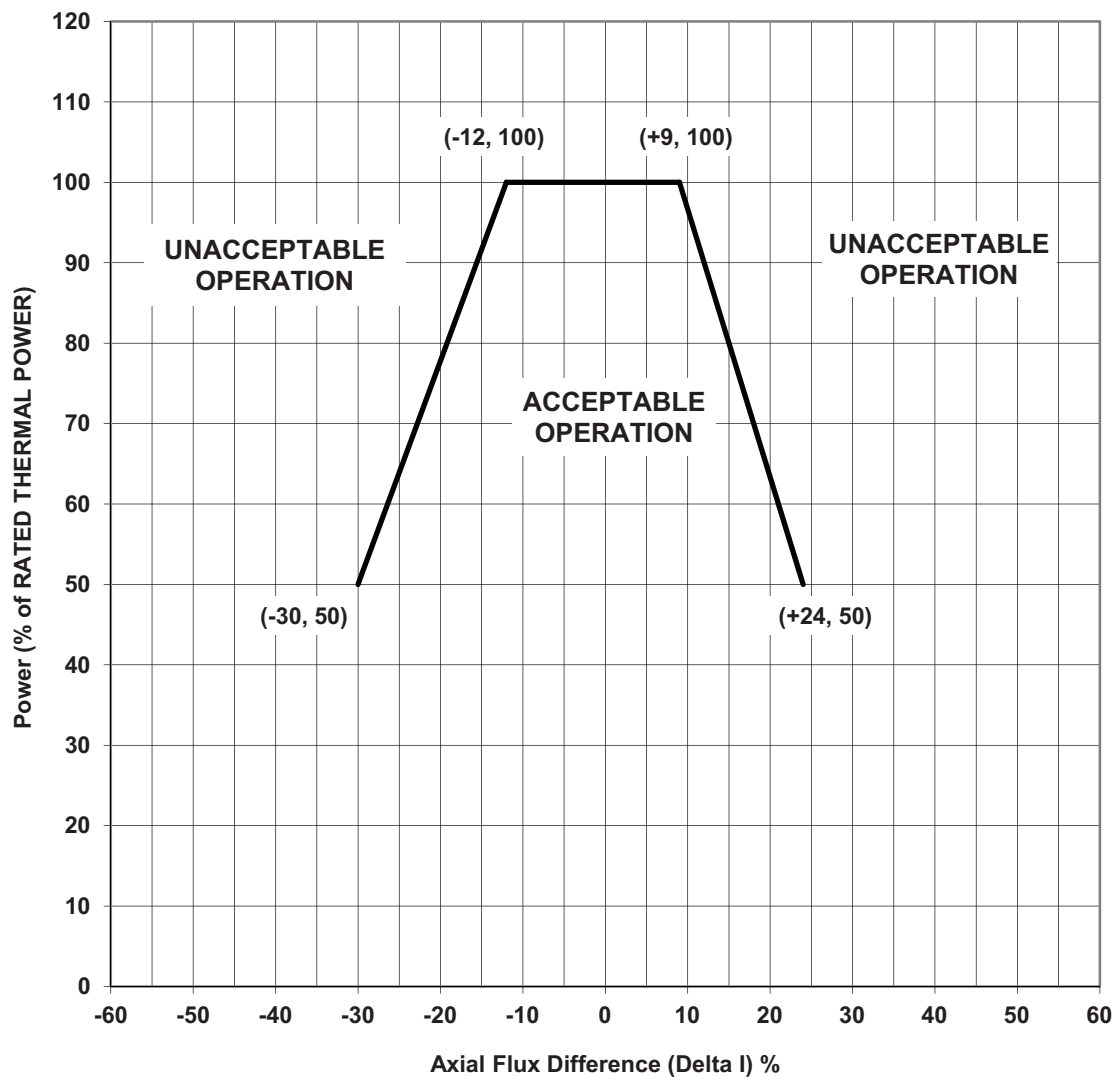
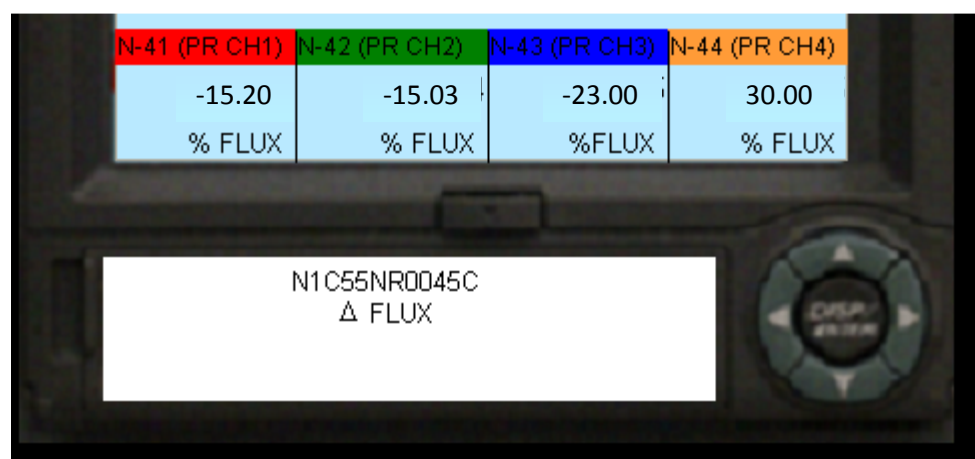


Figure 3
Axial Flux Difference Limits as a Function of
Rated Thermal Power for RAOC





A.1.b Conduct of operations - SRO + RO

TITLE: Determine The Minimum Amount And Duration Required For An RCS Boration
--

EVALUATION LOCATION: <u> X </u> CLASS ROOM

PROJECTED TIME: <u> 15 MIN </u> SIMULATOR IC NUMBER: <u> N/A </u>

ALTERNATE PATH <u> </u> TIME CRITICAL <u> </u> PRA <u> </u>

JPM DIRECTIONS:

1. This task can be conducted individually or in a group setting in which all the necessary references are available.
2. Provide student with HANDOUT pages and sign off applicable steps already completed.
3. Allow student time to review data.
4. Student will have access to the computer for material purposes. Access will be limited to the exam log in and **NO** internet access or lesson plan material can be accessed.

TASK STANDARD: Upon successful completion of this JPM, the examinee will:

- Determine minimum volume of required boration.
- Determine time required to achieve the boration requirement.

Examinee:

Overall JPM Performance: Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/>

Evaluator Comments (attach additional sheets if necessary)

EXAMINER: _____

Developer	Aaron Forsha	Date: 2/6/2012
NRC Approval	SEE NUREG 1021 FORM ES-301-3	

CONDITIONS

When I tell you to begin, you are to **DETERMINE THE MINIMUM AMOUNT AND DURATION REQUIRED FOR AN RCS BORATION**.

The conditions under which this task is to be performed are:

- a. Unit 1 is in Mode 3, 13,500 MWD/MTU, On-service BAT 7350 ppm.
- b. All RCPs are secured.
- c. The RCS is at the Critical Boron Concentration of 600 ppm.
- d. While warming up Main Steam lines in preparation for opening MSIV's, an inadvertent uncontrolled RCS cooldown occurred.
- e. Tavg is 530°F on TI-412D, TI-422D & 432D and stable.
- f. Tcold is 501°F on TR-410 Loop A, B, & C and stable.
- g. AOP-27.0, Emergency Boration, through step 8, has been completed.
- h. Emergency boration flow is 95 gpm.

You have been directed by the Shift Supervisor to evaluate AOP-27.0 EMERGENCY BORATION, Step 9 using the data provided and:

1. Determine the minimum amount of RCS boration required.
2. Determine minimum time required to complete the boration.
3. Record answers in table below.

INITIATING CUE: "You may begin."

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
_____ START TIME		
1. (step 9.1) Determines reactor is not critical.	Determines reactor is not critical.	S / U
<div style="border: 1px solid black; padding: 5px;"> NOTE: Tavg meters bottom of scale is 530°F. Initial conditions show Tavg as 530°F due bottom limit of scale. AOP-27 states use Tc indication with RCPs Secured. </div>		
2. (step 9.2) Determines Tavg is less than 525°F.	Determines Tavg value is not used because RCP are not running and Tcold is less than 525°F. TR 410 is 501°F.	S / U
3. (step 9.3) Determines from table that 55gals/°F<525°F is the amount of boration for the existing Boron concentration per AOP-27 Table.	Determines minimum gal per °F for the existing Boron concentration: 55gals/°F<525°F. No tolerance allowed on table value	S / U

EVALUATION CHECKLIST**ELEMENTS:****STANDARDS:****RESULTS:
(CIRCLE)**

4. Determines number of degrees Tavg is below 525°F.

$$525 - 501 = 24^{\circ} F$$

Determines Tavg is 24°F below 525°F.

S / U

No tolerance allowed on calculation

- *5. Determines total boration required for RCS Tavg 24°<525°.

$$(24^{\circ} F) \frac{55 \text{ gals}}{^{\circ} F} = 1,320 \text{ gals}$$

Determines total boration required for RCS Tavg 24°<525° is 1,320 gals.

S / U

No tolerance allowed on calculation

- *6. Determines duration of emergency boration at current flowrate.

$$\frac{1320 \text{ gals}}{95 \text{ gals/min}} = 13.895 \text{ min}$$

Determines duration of emergency boration at current flowrate.

S / U

Tolerance 13.8-14.0 minutes due to potential differences in rounding & significant digits.

This converts to the tolerance of 13.8 – 14 minutes 00 secs. (13 min 48 sec-14 min)

____ STOP TIME

Terminate when minimum amount and duration of emergency boration have been determined.

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

1. FNP-1-AOP-27.0 Rev. 16
2. Core Physics Curves 61 Rev. 33, 61A Pgs 1 & 2 Rev. 21
3. K/A: G2.1.7 RO 4.4 SRO 4.7
G2.1.25 RO 3.9 SRO 4.2
G2.1.20 RO 4.6 SRO 4.6

GENERAL TOOLS AND EQUIPMENT:

Provide: FNP-1-AOP-27.0
Calculator

Critical ELEMENT justification:**STEP****Evaluation**

1. **Not critical:** This information is given in conditions.
2. **Not critical:** Calculation only.
3. **Not critical:** Calculation only.
4. **Not critical:** Calculation only.
5. **Critical:** Answer is the assigned task.
6. **Critical:** Answer is the assigned task.

COMMENTS:**KEY**

Minimum RCS Boration Required	<u>1320</u>Gallons
Time required to complete required Boration	13.8 (13 MINUTES 48 SECONDS) TO 14 Minutes

HANDOUT

When I tell you to begin, you are to **DETERMINE THE MINIMUM AMOUNT AND DURATION REQUIRED FOR AN RCS BORATION**.

The conditions under which this task is to be performed are:

- a. Unit 1 is in Mode 3, 13,500 MWD/MTU, On-service BAT 7350 ppm.
- b. All RCPs are secured.
- c. The RCS is at the Critical Boron Concentration of 600 ppm.
- d. While warming up Main Steam lines in preparation for opening MSIV's, an inadvertent uncontrolled RCS cooldown occurred.
- e. Tavg is 530°F on TI-412D, TI-422D & 432D and stable.
- f. Tcold is 501°F on TR-410 Loop A, B, & C and stable.
- g. AOP-27.0, Emergency Boration, through step 8, has been completed.
- h. Emergency boration flow is 95 gpm.

You have been directed by the Shift Supervisor to evaluate AOP-27.0 EMERGENCY BORATION, Step 9 using the data provided and:

1. Determine the minimum amount of RCS boration required.
2. Determine minimum time required to complete the boration.
3. Record answers in table below.

Provide your answer below

Minimum RCS Boration Amount Required	
Time required to complete required Boration	

07/13/10 8:07:19

UNIT 1

FP-1-AOP-27.0
November 20, 2009
Version 16.0

FARLEY NUCLEAR PLANT ABNORMAL OPERATING PROCEDURE

FP-1-AOP-27.0

EMERGENCY BORATION

S
A
F
E
T
Y

R
E
L
A
T
E
D

PROCEDURE USAGE REQUIREMENTS PER FP-0-AP-6	SECTIONS
Continuous Use	ALL
Reference Use	
Information Use	

Approved:

Jim L Hunter (for)
Operations Manager

Date Issued: November 24, 2009

UNIT 1

EMERGENCY BORATION

07/13/10 8:07:19
FNP-1-AOP-27.0

Version 16.0

Table of Contents

PROCEDURE CONTAINS

NUMBER OF PAGES

Body	9
Attachment 1	3

A. Purpose

This procedure provides actions to emergency borate the RCS when a reactor trip is not required.

This procedure is applicable in Modes 1, 2, 3, 4, 5 and 6.

B. Symptoms or Entry Conditions

- I. This procedure is entered when emergency boration is required by any of the following:
 - a. Shutdown margin is determined to be less than required by Technical Specifications {or the TRM}
 - b. Unexplained or uncontrolled reactivity insertion
 - c. Actuation of CONT ROD BANK POSITION LO-LO annunciator FE2
 - d. Inadvertent cooldown below 525°F with critical boron concentration established

UNIT 1

07/13/10 8:07:19 FNP-1-AOP-27.0	EMERGENCY BORATION	Version 16.0
------------------------------------	--------------------	--------------

Step	Action/Expected Response	Response Not Obtained
<p><u>Step 1</u></p> <p>Start a boric acid transfer pump.</p> <p>BATP</p> <p><input type="checkbox"/> 1A</p> <p><input checked="" type="checkbox"/> 1B</p>	<p>NOTE: <u>IF</u> emergency boration is being aligned to the manual emergency boration flow path, <u>THEN</u> consideration should be given to starting a boration through the blender via FCV113A & B in accordance with FNP-1-SOP-2.3, CHEMICAL AND VOLUME CONTROL SYSTEM REACTOR MAKEUP CONTROL SYSTEM, while personnel are being dispatched to locally open Q1E21V185.</p>	<p>1 Perform the following.</p> <p>1.1 Align charging pump suction to RWST.</p> <p><input type="checkbox"/> Q1E21LCV115B open</p> <p><input type="checkbox"/> Q1E21LCV115D open</p> <p>VCT OUTLET ISO</p> <p><input type="checkbox"/> Q1E21LCV115C closed</p> <p><input type="checkbox"/> Q1E21LCV115E closed</p> <p>1.2 Proceed to step 3.</p>
<p><u>Step 2</u></p> <p>Align normal emergency boration flow path.</p> <p>EMERG BORATE TO CHG PUMP SUCT</p> <p><input checked="" type="checkbox"/> Q1E21MOV8104 open</p>		<p>2 Align manual emergency boration flow path.</p> <p>BORIC ACID TO BLENDER</p> <p><input type="checkbox"/> Q1E21FCV113A open</p> <p>MAN EMERG BORATION</p> <p><input type="checkbox"/> Q1E21V185 open (100 ft, AUX BLDG rad-side chemical mixing tank area)</p>

UNIT 1

07/13/10 8:07:19
FNP-1-AOP-27.0

EMERGENCY BORATION

Version 16.0

Step	Action/Expected Response	Response Not Obtained
	<p>*****</p> <p>CAUTION: Oscillating flow indications and/or ammeter indications could be indicative of air or gas intrusion into the charging pump suction. <u>IF</u> such indications are present, <u>THEN</u> consideration should be given to securing both letdown and any running charging pump <u>AND</u> ensuring the charging pump suction piping is adequately vented per FNP-1-SOP-2.1 prior to return to service.(Ref. SOER 97-1) (AI 2008206545)</p> <p>*****</p>	
3	Verify at least one CHG PUMP - STARTED.	
4	Establish adequate letdown.	
4.1	Verify 45 gpm letdown orifice - IN SERVICE.	
	LTDN ORIF ISO 45 GPM <input checked="" type="checkbox"/> Q1E21HV8149A open	
4.2	Verify at least one 60 gpm letdown orifice - IN SERVICE.	
	LTDN ORIF ISO 60 GPM <input checked="" type="checkbox"/> Q1E21HV8149B open <input checked="" type="checkbox"/> Q1E21HV8149C open	
5	Establish adequate charging flow.	
	<u>IF</u> boration is from boric acid storage tank, <u>THEN</u> verify charging flow - GREATER THAN 40 gpm.	
	<u>OR</u>	
	• <u>IF</u> boration is from the RWST, <u>THEN</u> verify charging flow - GREATER THAN 92 gpm.	

UNIT 1

07/13/10 8:07:19 FNP-1-AOP-27.0	EMERGENCY BORATION	Version 16.0
------------------------------------	--------------------	--------------

Step	Action/Expected Response	Response Not Obtained
Step 6	Verify emergency boration flow adequate. <ul style="list-style-type: none"> <u>IF</u> normal emergency boration flow path aligned, <u>THEN</u> check emergency boration flow greater than 30 gpm. <p>BORIC ACID EMERG BORATE <input checked="" type="checkbox"/> FI 110</p> <p><u>OR</u></p> <ul style="list-style-type: none"> <u>IF</u> manual emergency boration flow path aligned, <u>THEN</u> check boric acid flow greater than 30 gpm. <p>MAKEUP FLOW TO CHG/VCT <input type="checkbox"/> BA FI 113</p> <p><u>OR</u></p> <ul style="list-style-type: none"> <u>IF</u> boration is from the RWST, <u>THEN</u> verify charging flow - GREATER THAN 92 gpm. 	6 Verify boration flow path using ATTACHMENT 1, BORATION FLOW PATH.
Step 7	Direct Chemistry to secure the zinc addition system (ZAS).	

UNIT 1

07/13/10 8:07:19
FNP-1-AOP-27.0

EMERGENCY BORATION

Version 16.0

Step

Action/Expected Response

Response Not Obtained

NOTE:

The intent of the following step is to optimize the effectiveness of an emergency boration when no RCP is running and RHR is in operation.

~~8~~

IF no RCP is running AND RHR is aligned for cooldown operation, THEN perform the following.

~~8.1~~

Verify alternate charging path in service.

RCS ALT
CHG LINE

☐ Q1E21HV8147 open

RCS NORMAL
CHG LINE

☒ Q1E21HV8146 closed

9 Check emergency boration complete.

9.1 Check reactor - NOT CRITICAL.

9.1 Perform the following.

9.1.1 IF control rod insertion below rod insertion limit,
THEN continue emergency boration and return to step 5.
IF NOT, proceed to RNO step 9.1.2.

9.1.2 IF emergency borating as a result of inoperable {untrippable} control rods per Tech. Spec. 3.1.3.1 {3.1.4.A},
THEN verify shutdown margin greater than Technical Specification requirement using FNP-1-STP-29.5, SHUTDOWN MARGIN CALCULATION IN MODES 1 AND 2 (TAVG \geq 547°F) WITH INOPERABLE OR IMMOVABLE CONTROL RODS(S) {WITH UNTRIPPABLE CONTROL ROD(S)}.
IF NOT, proceed to step 10.

Step 9 continued on next page

Page Completed

UNIT 1

07/13/10 8:07:19 FNP-1-AOP-27.0	EMERGENCY BORATION	Version 16.0
------------------------------------	--------------------	--------------

Step	Action/Expected Response	Response Not Obtained
		<p>9.1.3 <u>WHEN</u> shutdown margin greater than Technical Specification requirement, <u>THEN</u> proceed to step 10.</p> <p>9.1.4 Continue emergency boration and return to step 5.</p>
<p>NOTE: In response to an uncontrolled cooldown below 525°F, the cold shutdown boron concentration is the maximum boron concentration required regardless of the extent of the cooldown.</p>		
9.2	Check RCS TAVG - LESS THAN 525°F.	9.2 Perform the following.
9.2.1	<p><u>IF</u> RCP's are running, <u>THEN</u> use TAVG temperature indication on MCB <u>OR</u> IPC.</p> <p>TAVG (NARROW RANGE - MCB) 1A,(1B,1C) RCS LOOP</p> <p><input type="checkbox"/> TI 412D <input type="checkbox"/> TI 422D <input type="checkbox"/> TI 432D</p> <p>TAVG (WIDE RANGE - IPC) 1A,(1B,1C) RCS LOOP</p> <p><input type="checkbox"/> TC4601 <input type="checkbox"/> TC4602 <input type="checkbox"/> TC4603</p>	<p>a) Verify shutdown margin greater than Technical Specification requirement using FNP-1-STP-29.1, SHUTDOWN MARGIN CALCULATION (TAVG 547°F) or FNP-1-STP-29.2, SHUTDOWN MARGIN CALCULATION (TAVG < 547°F <u>OR</u> BEFORE THE INITIAL CRITICALITY FOLLOWING REFUELING).</p> <p>b) <u>WHEN</u> shutdown margin greater than Technical Specification requirement, <u>THEN</u> proceed to step 10.</p> <p>c) Continue emergency boration and return to step 5.</p>
9.2.2	<p><u>IF</u> RCP's are not running, <u>THEN</u> use RCS cold leg temperature indication.</p> <p>RCS COLD LEG TEMP RECORDER</p> <p><input type="checkbox"/> TR 410</p>	

Step 9 continued on next page

UNIT 1

07/13/10 8:07:19
FNP-1-AOP-27.0

EMERGENCY BORATION

Version 16.0

Step

Action/Expected Response

Response Not Obtained

- 9.3 Continue emergency boration based on initial boron concentration and RCS TAVG.

Approximate Boration (4 wt% boric acid)	
Initial RCS Boron Concentration	Each °F TAVG Is Less Than 525 °F
0 ppm	50 gal
300 ppm	52 gal
600 ppm	55 gal
1200 ppm	60 gal
1500 ppm	64 gal
1800 ppm	68 gal

NOTE: Step 9 must be complete before continuing with this procedure.

10 Check BAT is emergency boration source.

- 10.1 Stop running boric acid transfer pump.

BATP

- ☐ 1A
☐ 1B

10 Perform the following.

- 10.1 Align charging pump suction to VCT.

VCT

OUTLET ISO

- ☐ Q1E21LCV115C open
☐ Q1E21LCV115E open

RWST

TO CHG PUMP

- ☐ Q1E21LCV115B closed
☐ Q1E21LCV115D closed

- 10.2 Proceed to step 12.

UNIT 1

07/13/10 8:07:19 FNP-1-AOP-27.0	EMERGENCY BORATION	Version 16.0
Step	Action/Expected Response	Response Not Obtained
— 11	Check normal emergency boration flow path aligned.	11 Secure manual emergency boration flow path.
	11.1 Secure normal emergency boration flow path. EMERG BORATE TO CHG PUMP SUCT <input type="checkbox"/> Q1E21MOV8104 closed	BORIC ACID TO BLENDER <input type="checkbox"/> Q1E21FCV113A closed MAN EMERG BORATION <input type="checkbox"/> Q1E21V185 closed (100 ft, AUX BLDG rad-side chemical mixing tank area)
— 12	Direct Chemistry to sample RCS for boron concentration using FNP-1-CCP-651, SAMPLING THE REACTOR COOLANT SYSTEM.	
— 13	Verify reactor makeup control system aligned for auto makeup using FNP-1-SOP-2.3, CHEMICAL AND VOLUME CONTROL SYSTEM REACTOR MAKEUP CONTROL SYSTEM	13 Manually control reactor makeup system using FNP-1-SOP-2.3, CHEMICAL AND VOLUME CONTROL SYSTEM REACTOR MAKEUP CONTROL SYSTEM.

UNIT 1

07/13/10 8:07:19 FNP-1-AOP-27.0	EMERGENCY BORATION	Version 16.0
------------------------------------	--------------------	--------------

Step	Action/Expected Response	Response Not Obtained
14	Check Shutdown Margin verified greater than Technical Specification requirement by Step 9.2 RNO.	<p>14 Verify shutdown margin greater than Technical Specification requirement using applicable procedure:</p> <ul style="list-style-type: none"> FNP-1-STP-29.1, SHUTDOWN MARGIN CALCULATION (TAVG 547°F) <p><u>OR</u></p> <ul style="list-style-type: none"> FNP-1-STP-29.2, SHUTDOWN MARGIN CALCULATION (TAVG < 547°F <u>OR</u> BEFORE THE INITIAL CRITICALITY FOLLOWING REFUELING) <p><u>OR</u></p> <ul style="list-style-type: none"> FNP-1-STP-29.5, SHUTDOWN MARGIN CALCULATION IN MODES 1 <u>AND</u> 2 (TAVG ≥ 547°F) WITH INOPERABLE <u>OR</u> IMMOVABLE CONTROL RODS(S) {WITH UNTRIPPABLE CONTROL ROD(S)}

NOTE: After a completion of any fast ramp or emergency boration, the suction piping of any idle charging pump could have a significantly higher boron concentration than the existing RCS. (OE-17609 & AI 2004200233)

15 Go to procedure and step in effect.

-END-

UNIT 1

07/13/10 8:07:19
FNP-1-AOP-27.0

EMERGENCY BORATION

Version 16.0

Step

Action/Expected Response

Response Not Obtained

ATTACHMENT 1

BORATION FLOW PATH

1 **IF normal emergency boration flow path aligned, THEN verify running charging pump header valves open.**

Running CHG PUMP	1A	1B	1C
CHG PUMP SUCTION HDR ISO Q1E21MOV	<input type="checkbox"/> 8130A <input type="checkbox"/> 8130B <input type="checkbox"/> 8131A <input type="checkbox"/> 8131B	<input type="checkbox"/> 8131A <input type="checkbox"/> 8131B	
CHG PUMP DISCH HDR ISO Q1E21MOV		<input type="checkbox"/> 8132A <input type="checkbox"/> 8132B	<input type="checkbox"/> 8132A <input type="checkbox"/> 8132B <input type="checkbox"/> 8133A <input type="checkbox"/> 8133B

1 **IF manual emergency boration flow path aligned, THEN verify running charging pump header valves open.**

Running CHG PUMP	1A	1B	1C
CHG PUMP SUCTION HDR ISO Q1E21MOV		<input type="checkbox"/> 8130A <input type="checkbox"/> 8130B	<input type="checkbox"/> 8130A <input type="checkbox"/> 8130B <input type="checkbox"/> 8131A <input type="checkbox"/> 8131B
CHG PUMP DISCH HDR ISO Q1E21MOV		<input type="checkbox"/> 8132A <input type="checkbox"/> 8132B	<input type="checkbox"/> 8132A <input type="checkbox"/> 8132B <input type="checkbox"/> 8133A <input type="checkbox"/> 8133B

UNIT 1

07/13/10 8:07:19 FNP-1-AOP-27.0	EMERGENCY BORATION	Version 16.0
Step	Action/Expected Response	Response Not Obtained
	<p align="center">ATTACHMENT 1</p> <p align="center">BORATION FLOW PATH</p>	
<p>2 Check boration flow adequate.</p>	<p>2.1 <u>IF</u> normal emergency boration flow path aligned, <u>THEN</u> check emergency boration flow greater than 30 gpm</p> <p>BORIC ACID EMERG BORATE <input type="checkbox"/> FI 110</p> <p>2.2 <u>IF</u> manual emergency boration flow path aligned, <u>THEN</u> check boric acid flow greater than 30 gpm.</p> <p>MAKEUP FLOW TO CHG/VCT <input type="checkbox"/> BA <input type="checkbox"/> FI 113</p>	<p>2 Perform the following:</p> <p>a) Align charging pump suction to RWST:</p> <p>RWST TO CHG PUMP <input type="checkbox"/> Q2E21LCV115B open <input type="checkbox"/> Q2E21LCV115D open</p> <p>VCT OUTLET ISO <input type="checkbox"/> Q2E21LCV115C closed <input type="checkbox"/> Q2E21LCV115E closed</p> <p>b) Stop running boric acid transfer pump.</p> <p>BATP <input type="checkbox"/> 1A <input type="checkbox"/> 1B</p> <p>c) Secure normal emergency boration flow path.</p> <p>EMERG BORATE TO CHG PUMP SUCT <input type="checkbox"/> Q1E21MOV8104 closed</p>
<p>3 Verify charging flow path aligned.</p>	<p>3.1 Verify charging pump discharge flow path - ALIGNED.</p> <p>CHG PUMPS TO REGENERATIVE HX <input type="checkbox"/> Q1E21MOV8107 open <input type="checkbox"/> Q1E21MOV8108 open</p>	

Step 3 continued on next page

UNIT 1

07/13/10 8:07:19 FNP-1-AOP-27.0	EMERGENCY BORATION	Version 16.0
------------------------------------	--------------------	--------------

Step	Action/Expected Response	Response Not Obtained
ATTACHMENT 1		
BORATION FLOW PATH		
3.2	Verify only one charging line valve - OPEN.	
	RCS NORM	
	CHG LINE	
	<input type="checkbox"/> Q1E21HV8146	
	RCS ALT	
	CHG LINE	
	<input type="checkbox"/> Q1E21HV8147	
3.3	<u>IF</u> boration is from the boric acid storage tank, <u>THEN</u> verify charging flow - GREATER THAN 40 gpm.	3.3 <u>IF</u> boration is from the RWST, <u>THEN</u> verify charging flow - GREATER THAN 92 gpm.
	CHG FLOW	
	<input type="checkbox"/> FK 122 manually adjusted	<input type="checkbox"/> FK 122 manually adjusted
— 4	Notify control room of boration status.	
— 5	Return to step 7.	
-END-		
Page Completed		

A.2 Conduct of operations ADMIN RO**TITLE: RCP Seal Injection Leakage Test****EVALUATION LOCATION:** X CLASS ROOM**PROJECTED TIME:** 10 MIN **SIMULATOR IC NUMBER:** N/A **ALTERNATE PATH** **TIME CRITICAL** **PRA** **JPM DIRECTIONS:**

1. This task can be conducted individually or in a group setting in which all the necessary references are available.
2. Provide student with HANDOUT and calculator.

TASK STANDARD: Upon successful completion of this JPM, the examinee will:

- Correctly assess and determine if STP-8.0 Acceptance Criteria is met.

Examinee:**Overall JPM Performance:** **Satisfactory** ☐ **Unsatisfactory** ☐**Evaluator Comments** (attach additional sheets if necessary)**EXAMINER:** _____

Developer	Aaron Forsha	Date: 2/6/2012
NRC Approval	SEE NUREG 1021 FORM ES-301-3	

CONDITIONS

When I tell you to begin, you are to complete the **RCP SEAL INJECTION LEAKAGE TEST**.

- a. Unit 1 is at 24% power.

Your task is to complete the steps listed below of FNP-1-STP-8.0, RCP SEAL INJECTION LEAKAGE TEST, using the data provided.

1. Step 5.5
2. Step 5.6
3. Complete answer table below to determine the flow limit and Acceptance Criteria.

INITIATING CUE: "You may begin."

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
_____ START TIME		
1. (step 5.5.1) Determine total seal injection flow.	Transfers data from steps 5.3.1-5.3.3 and adds values. $13+13+13=39$ gpm No tolerance allowed	S / U
2. (step 5.5.2) Determine average PRZR pressure.	Transfers data from steps 5.3.5-5.3.7 and averages the values. $(2239+2242+2237)/3=2239.3333$ psig Tolerance allowed: 2239 to 2239.34 psig	S / U
3. (step 5.6.1) Determine differential pressure.	Transfers data from 5.3.4 and 5.5.2 and calculates the difference. $2600-2239=360.66667$ psid Tolerance allowed: 360.6 to 361 psig	S / U
<div style="border: 1px solid black; padding: 5px;"> Note: In the following element the calculated psid is off the chart and flow limit is determined by the note at the bottom of Figure 1. </div>		
*4. (step 5.6.1) Determine flow limit from figure 1.	Using 360.7 psid from step 5.6.1 using Figure 1 determines that flow limit is 40 gpm.	S / U
*5. Evaluate acceptance criteria.	Determines total flow and individual flow acceptance criteria is met	S / U

STOP TIME

Terminate JPM when answer table is completed.

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

KEY

Step 5.6.2 (FLOW LIMIT)	<u>40</u> gpm	
	ACCEPTANCE CRITERIA	
Step 5.6.2	MET	NOT MET

GENERAL REFERENCES:

1. Tech Specs Amendment 146 U1/ 137 U2
2. FNP-1-STP-8.0 Ver 22.1
3. KA G2.2.12 RO 3.7 SRO 4.1

GENERAL TOOLS AND EQUIPMENT:

Provide: Calculator

Critical ELEMENT justification:

STEP

Evaluation

1. **Not critical:** Calculation only.
2. **Not critical:** Calculation only.
3. **Not critical:** Calculation only.
4. **Critical:** Task depends on accurate interpretation of Figure to establish correct acceptance results.
5. **Critical:** This is the assigned task.

COMMENTS:

HANDOUT

CONDITIONS

When I tell you to begin, you are to complete the **RCP SEAL INJECTION LEAKAGE TEST**.


- a. Unit 1 is at 24% power.

Your task is to complete the steps listed below of FNP-1-STP-8.0, RCP SEAL INJECTION LEAKAGE TEST, using the data provided.

1. Step 5.5
2. Step 5.6
3. Complete answer table below to determine the flow limit and Acceptance Criteria.

Provide your answer below

Step 5.6.2 (FLOW LIMIT)	_____ gpm	
	ACCEPTANCE CRITERIA Circle One	
Step 5.6.2	MET	NOT MET

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 1 of 11	

S
A
F
E
T
Y


RCP SEAL INJECTION LEAKAGE TEST

R
E
L
A
T
E
D

PROCEDURE LEVEL OF USE CLASSIFICATION PER NMP-AP-003	
CATEGORY	SECTIONS
Continuous:	ALL
Reference:	NONE
Information:	NONE


Approved By: David L Reed (for)
Operations Manager

Effective Date: February 22, 2013

UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-8.0 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 2 of 11

SURVEILLANCE TEST REVIEW SHEET

SURVEILLANCE TEST NO. FNP-1-STP-8.0		TECHNICAL SPECIFICATION REFERENCE SR 3.5.5.1	
TITLE RCP SEAL INJECTION LEAKAGE TEST		MODE(S) REQUIRING TEST: 1, 2, 3	
<u>TEST RESULTS</u> (TO BE COMPLETED BY TEST PERFORMER)			
PERFORMED BY: _____ / _____ (Print) (Signature)		DATE/TIME: _____ / _____	
COMPONENT OR TRAIN TESTED (if applicable) _____			
<input type="checkbox"/> ENTIRE STP PERFORMED		<input type="checkbox"/> FOR SURVEILLANCE CREDIT	
<input type="checkbox"/> PARTIAL STP PERFORMED		<input type="checkbox"/> <u>NOT</u> FOR SURVEILLANCE CREDIT	
REASON FOR PARTIAL _____			
TEST COMPLETED <input type="checkbox"/> Satisfactory		<input type="checkbox"/> Unsatisfactory	
<input type="checkbox"/> The following deficiencies occurred _____			
<input type="checkbox"/> Corrective action taken or initiated _____			
<u>SHIFT SUPERVISOR/ SHIFT SUPPORT SUPERVISOR REVIEW</u>			
<input type="checkbox"/> Procedure properly completed and satisfactory per step 9.1 of FNP-0-AP-5			
<input type="checkbox"/> Procedure to be placed in Operations Office for IST Engineer review following OPS Review.			
<input type="checkbox"/> Comments _____			
REVIEWED BY: _____ / _____ (Print) (Signature)		DATE: _____	
*Reviewer must be AP-31 Level II certified & cannot be the Performing Individual			
<u>IST ENGINEER REVIEW (REQUIRED)</u>			
REVIEWED BY: _____ / _____ (Print) (Signature)		DATE: _____	
<input type="checkbox"/> Comments _____			

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 3 of 11	

Procedure Version Description

Version Number	Version Description
21.0	Updated procedure to requirements of NMP-OS-008-001, Operations Procedure Writing Instructions Rewrote procedure providing detailed guidance previously implied. Added Appendix 1. Changed requirement to verify throttle valves sealed for each performance, whether adjustments made or not.
22.0	Added check boxes to initial conditions. Deleted check boxes from steps that also require recording data. Step 5.9, corrected referenced step number. Inserted check boxes for P&L steps 4.1 & 4.2. Modified step 5.7.2 for clarity. Added CR references to step 5.9. Made all signoff blanks the INIT blanks per template configuration.
22.1	TE 497178 - Revised the STRS to require IST engineer review. Added new step to scan the procedure and email to FNP IST Engineer.



UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 4 of 11	

Table of Contents

	<u>Page</u>
1.0 Purpose	5
2.0 Acceptance Criteria	5
3.0 Initial Conditions	5
4.0 Precautions and Limitations	5
5.0 Instructions	6
6.0 References	8
Figure 1	9
Appendix 1	10

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 5 of 11	

1.0 Purpose

To determine the amount of seal injection flow to the reactor coolant pump seals and to verify operability of CVCS seal injection to RCP check valves (Q1E21V0115A/B/C) to pass full forward flow in accordance with the requirements of the ASME OM Code.

2.0 Acceptance Criteria

- 2.1 Manual seal injection throttle valves are adjusted to give a flow within the limits of Figure 1 with SEAL WTR INJECTION HIK 186 full open.
- 2.2 Flow through each CVCS seal injection to RCP check valve (Q1E21V0115A/B/C) is greater than 6.7 gpm.

NOTE

Asterisked steps (*) are those associated with Acceptance Criteria.

3.0 Initial Conditions


- 3.1 The version of this procedure has been verified to be the current version.
(OR 1-98-498)
- 3.2 This procedure has been verified to be the correct unit for the task.
(OR 1-98-498)
- 3.3 Reactor coolant system pressure is between 2215 psig and 2255 psig.
- 3.4 RCP seal injection system is aligned per FNP-1-SOP-2.1A.
- 3.5 IF operating at power, THEN power level is constant.
- 3.6 Reactor coolant system temperature is $\geq 290^{\circ}\text{F}$.
- 3.7 Pressurizer level is stable and in the normal operating band.
- 3.8 Charging Flow is stable.
- 3.9 Record Charging Pump(s) in Service 1A.



4.0 Precautions and Limitations

- 4.1 Do not change power level during this test.
- 4.2 When letdown flow has been changed from two orifices in service to only one orifice in service, then FNP-1-STP-8.0 must be performed immediately to verify the requirements of Technical Specification SR 3.5.5.1.



UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-8.0 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 6 of 11

5.0 Instructions

5.1 Record seal injection flow to RCPs (MCB indication).

- 1A RCP SHAFT SEAL FLOW FI 130A 7 gpm
- 1B RCP SHAFT SEAL FLOW FI 127A 7 gpm
- 1C RCP SHAFT SEAL FLOW FI 124A 7 gpm

5.2 *Increase seal water flow to maximum by fully opening SEAL WTR INJECTION HIK 186.

Bt
Initial

5.3 *Record the following (MCB indication):

- 5.3.1** 1A RCP SHAFT SEAL FLOW FI 130A 13 gpm
- 5.3.2** 1B RCP SHAFT SEAL FLOW FI 127A 13 gpm
- 5.3.3** 1C RCP SHAFT SEAL FLOW FI 124A 13 gpm
- 5.3.4** CHG HDR PRESS PI 121 2600 psig
- 5.3.5** PRZR PRESS PI 455 2239 psig
- 5.3.6** PRZR PRESS PI 456 2242 psig
- 5.3.7** PRZR PRESS PI 457 2237 psig

5.4 Adjust SEAL WTR INJECTION HIK 186 to attain desired seal injection flowrate.

Bt
Initial

5.5 Perform the following calculations:

5.5.1 Determine total seal injection flow.

Initial

Sum of values recorded in steps 5.3.1 + 5.3.2 + 5.3.3

Step 5.3.1 _____ + step 5.3.2 _____ + step 5.3.3 _____ = Total _____ gpm


5.5.2 Determine average PRZR Pressure.

Initial

Sum of values recorded in steps 5.3.5 + 5.3.6 + 5.3.7 ÷ # of operable channels.

Step 5.3.5 _____ + step 5.3.6 _____ + step 5.3.7 _____ = Total _____ psig

Total _____ psig ÷ # of operable channels _____ = Average pressure _____

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 7 of 11	

5.6 *Determine the FLOW LIMIT from Figure 1 based on the differential pressure between average pressurizer pressure and charging header pressure.

5.6.1 Determine ΔP as follows.

CHG HDR PRESS step 5.3.4 - Average PRZR Pressure value step 5.5.2 = ΔP

Step 5.3.4 _____ - Step 5.5.2 _____ = _____ psid

Initial

5.6.2 FLOW LIMIT from FIGURE 1 (Based on the ΔP determined in step 5.6.1.

FLOW LIMIT from FIGURE 1 _____ gpm

Initial

ACCEPTANCE CRITERIA

Total Flow within limits of Figure 1 with SEAL WTR INJECTION HIK 186 fully open.

Flow is ≥ 6.7 gpm through each line.

5.7 IF flow adjustment necessary, THEN perform the following:

5.7.1 **Adjust** seal injection manual throttle valves to obtain proper flow using
FNP-1-SOP-2.1, Appendix I, Balancing Seal Injection Flows
To RCP's and Adjusting Total Seal Injection Flow.

Initial

5.7.2 **Perform** Appendix 1 of this procedure.

Initial

5.8 **Verify** the following seal injection throttle valves are sealed in position: (NRC Cmt. 0004355) (CR 2010113165)

- 1-CVC-V-8369A (Q1E21V116A)


Initial

- 1-CVC-V-8369B (Q1E21V116B)

Initial

- 1-CVC-V-8369C (Q1E21V116C)

Initial

UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-8.0 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 8 of 11

5.9 IF adjustments were made per step 5.7, **THEN Independently verify** the following seal injection throttle valves are sealed in position: (NRC Cmt. 0004355) (CR 2010113165)

- 1-CVC-V-8369A (Q1E21V116A)
- 1-CVC-V-8369B (Q1E21V116B)
- 1-CVC-V-8369C (Q1E21V116C)

Initial

Initial

Initial

5.10 Scan the entire procedure to the following Email address: "FNP IST Engineer".

Initial

6.0 References

- 6.1** D-175039 - CVCS P & ID, Sheets 1 & 2
- 6.2** Fourth 10-Year Interval IST Program
- 6.3** Technical Specification 3.5.5


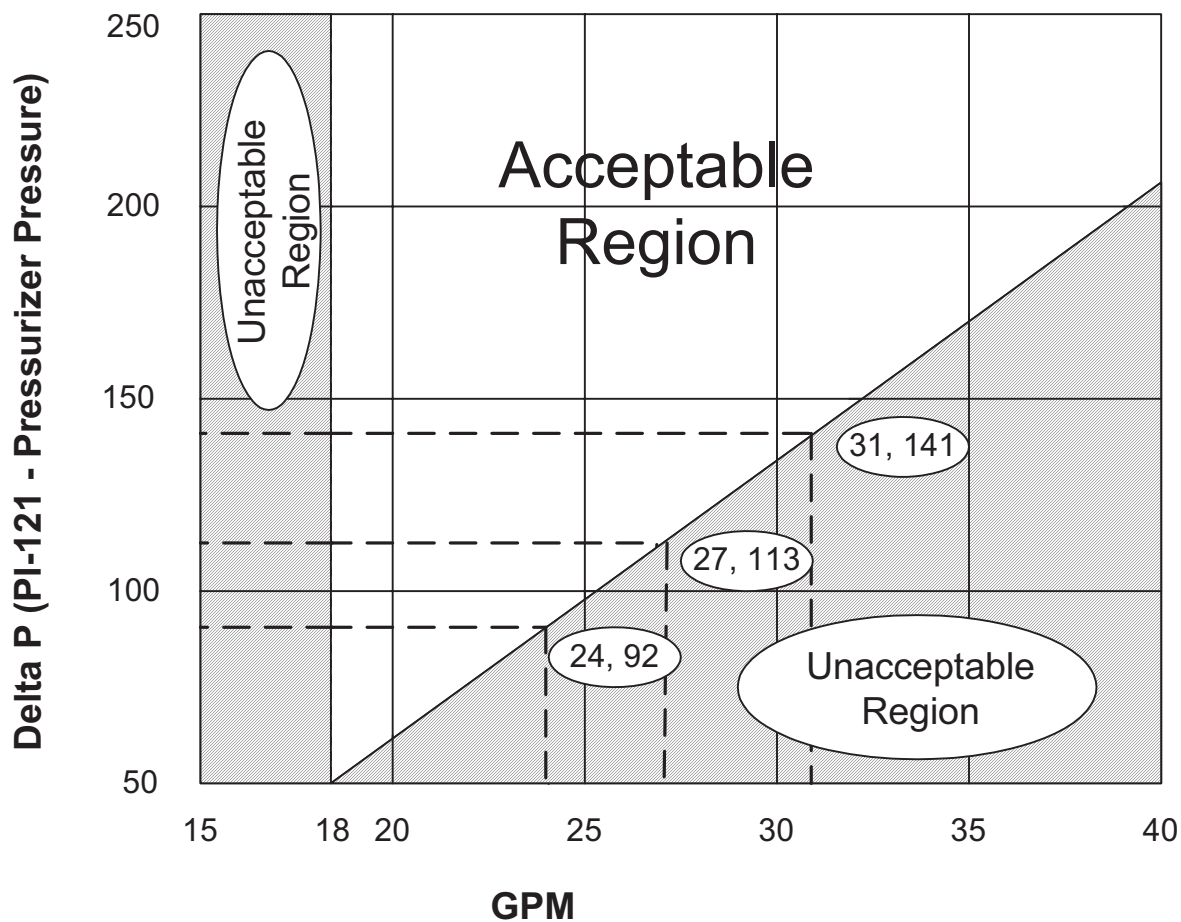

UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-8.0 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 9 of 11

FIGURE 1



* FOR Delta P's > 250 PSID the Flow Limit is 40 GPM.

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 10 of 11	

Appendix 1

Throttle Valve Adjustment and Re-calculation of Controlled Leakage

NOTE

Any throttle valve adjustments should be verified acceptable per SR 3.5.5.1 by performing two FNP-1-STP-8.0s, RCP SEAL INJECTION LEAKAGE TEST, within four hours. One FNP-1-STP-8.0 should be performed with the “strongest” charging pump supplying flow and one FNP-1-STP-8.0 performed with the “weakest” charging pump supplying flow. The “strongest” and “weakest” charging pump can be determined by comparing the data in the Surveillance Test Data book. (Engineering Support should be contacted if assistance is required in making this determination.) If it is not feasible to run FNP-1-STP-8.0 using either the strongest or weakest pump (i.e., pump not capable of running or breaker racked out), then the surveillance should be run with the two available charging pumps and an admin LCO written for the inoperable pump to ensure FNP-1-STP-8.0 is run when the pump is returned to service.

7.0 Instructions

7.1 IF necessary, THEN adjust seal injection manual throttle valves to obtain proper flow and record the following below: {CMT 0004422}

Initial

7.2 *Increase seal water flow to maximum by fully opening SEAL WTR INJECTION HIK 186.

Initial

7.3*Record the following (MCB indication):

7.3.1 1A RCP SHAFT SEAL FLOW FI 130A _____ gpm

7.3.2 1B RCP SHAFT SEAL FLOW FI 127A _____ gpm

7.3.3 1C RCP SHAFT SEAL FLOW FI 124A _____ gpm

7.3.4 CHG HDR PRESS PI 121 _____ psig


7.3.5 PRZR PRESS PI 455 _____ psig

7.3.6 PRZR PRESS PI 456 _____ psig

7.3.7 PRZR PRESS PI 457 _____ psig

7.4 Adjust SEAL WTR INJECTION HIK 186 to attain desired seal injection flowrate.

Initial

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 11 of 11	

7.5 Perform the following calculations:

7.5.1 Determine total seal injection flow.

Initial

Sum of values recorded in steps 7.3.1 + 7.3.2 + 7.3.3

Step 7.3.1 _____ + step 7.3.2 _____ + step 7.3.3 _____ = Total _____ gpm

7.5.2 Determine average PRZR Pressure.

Initial

Sum of values recorded in steps 7.3.5 + 7.3.6 + 7.3.7 ÷ # of operable channels.

Step 7.3.5 _____ + step 7.3.6 _____ + step 7.3.7 _____ = Total _____ psig

Total _____ psig ÷ # of operable channels _____ = Average pressure _____

7.6 *Determine the FLOW LIMIT from Figure 1 based on the differential pressure between average pressurizer pressure and charging header pressure.

7.6.1 Determine ΔP as follows.

CHG HDR PRESS step 7.3.4 - Average PRZR Pressure value step 7.5.2 = ΔP

Step 7.3.4 _____ - Step 7.5.2 _____ = _____ psid

Initial

7.6.2 FLOW LIMIT from FIGURE 1 (Based on the ΔP determined in step 7.6.1).

FLOW LIMIT from FIGURE 1 _____ gpm

Initial

ACCEPTANCE CRITERIA

Total Flow within limits of Figure 1 with SEAL WTR INJECTION HIK 186 fully open.

Flow is ≥ 6.7 gpm through each line.

NOTE

The surveillance can be recorded as satisfactory even if acceptance criteria not satisfied at step 5.6, providing acceptance criteria satisfied following adjustment per Appendix 1.

7.7 Return to step 5.8 in the body of the procedure.

Initial

A.2 Conduct of operations ADMIN SRO**TITLE: RCP Seal Injection Leakage Test****EVALUATION LOCATION:** X CLASS ROOM**PROJECTED TIME:** 15 MIN **SIMULATOR IC NUMBER:** N/A **ALTERNATE PATH** **TIME CRITICAL** **PRA** **JPM DIRECTIONS:**

1. This task can be conducted individually or in a group setting in which all the necessary references are available.
2. Provide student with HANDOUT and calculator.
3. Computer with exam security log in.

TASK STANDARD: Upon successful completion of this JPM, the examinee will:

- Correctly assess and determine if STP-8.0 Acceptance Criteria is met.
- Correctly assess Tech Spec requirements.

Examinee:**Overall JPM Performance:** **Satisfactory** ☐**Unsatisfactory** ☐**Evaluator Comments** (attach additional sheets if necessary)**EXAMINER:** _____

Developer	Aaron Forsha	Date: 2/6/2012
NRC Approval	SEE NUREG 1021 FORM ES-301-3	

CONDITIONS

When I tell you to begin, you are to complete the **RCP SEAL INJECTION LEAKAGE TEST**.

- a. Unit 1 is at 24% power.

Your task is to complete the steps listed below of FNP-1-STP-8.0, RCP SEAL INJECTION LEAKAGE TEST, using the data provided.

1. Step 5.5
2. Step 5.6
3. Complete answer table below to determine the flow limit and Acceptance Criteria.

INITIATING CUE: "You may begin."

Part 2 – administer this portion of the JPM after completion of the above task.

JPM DIRECTIONS:

1. Provide student with **Part 2 HANDOUT**.

CONDITIONS

Based on your previously provided conditions, evaluate Tech Specs.

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
_____ START TIME		
*1. (step 5.5.1) Determine total seal injection flow.	Transfers data from steps 5.3.1-5.3.3 and adds values. $14+13+14=41$ gpm No tolerance allowed	S / U
*2. (step 5.5.2) Determine average PRZR pressure.	Transfers data from steps 5.3.5-5.3.7 and averages the values. $(2242+2241+2240)/3=2241$ psig No tolerance allowed	S / U
*3. (step 5.6.1) Determine differential pressure.	Transfers data from 5.3.4 and 5.5.2 and calculates the difference. $2600-2241=359$ psid No tolerance allowed	S / U

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
------------------	-------------------	------------------------------

Note: In the following element the calculated psid is off the chart and flow limit is determined by the note at the bottom of Figure 1.

*4. (step 5.6.1) Determine flow limit from figure 1.	Using 359 psid from step 5.6.1 determines using Figure 1 that flow limit is 40 gpm.	S / U
*5. Evaluate acceptance criteria.	Determines total flow and individual flow acceptance criteria is <u>NOT met</u> .	S / U

Part 2 – administer this portion of the JPM after completion of the above task.

*6. Evaluates Tech Spec Requirements.	Tech Spec 3.5.5 Condition A is entered and adjustments must be made within 4 hours.	S / U
---------------------------------------	---	-------

STOP TIME

Terminate JPM when Tech Spec evaluation is complete.

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

1. Tech Specs Amendment 146 U1/ 137 U2
2. FNP-1-STP-8.0 Ver 22.1
3. KA G2.2.12 RO 3.7 SRO 4.1

GENERAL TOOLS AND EQUIPMENT:

Provide: Calculator

Critical ELEMENT justification:

STEP

Evaluation

1. **Not critical:** Calculation only.
2. **Not critical:** Calculation only.
3. **Not critical:** Calculation only.
4. **Critical:** Task depends on accurate interpretation of Figure to establish correct acceptance results.
5. **Critical:** This is the assigned task.
6. **Critical:** This is the assigned task.

COMMENTS:**KEY**

Step 5.6.2 (FLOW LIMIT)	<u>40</u> gpm	
	ACCEPTANCE CRITERIA	
Step 5.6.2	MET	NOT MET

Part 2

HANDOUT

CONDITIONS

Based on your previously provided conditions, evaluate Tech Specs.

HANDOUT

CONDITIONS

When I tell you to begin, you are to complete the **RCP SEAL INJECTION LEAKAGE TEST**.


- a. Unit 1 is at 24% power.

Your task is to complete the steps listed below of FNP-1-STP-8.0, RCP SEAL INJECTION LEAKAGE TEST, using the data provided.

1. Step 5.5
2. Step 5.6
3. Complete answer table below to determine the flow limit and Acceptance Criteria.

Provide your answer below

Step 5.6.2 (FLOW LIMIT)	_____ gpm	
	ACCEPTANCE CRITERIA Circle One	
Step 5.6.2	MET	NOT MET

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 1 of 11	

S
A
F
E
T
Y


RCP SEAL INJECTION LEAKAGE TEST

R
E
L
A
T
E
D

PROCEDURE LEVEL OF USE CLASSIFICATION PER NMP-AP-003	
CATEGORY	SECTIONS
Continuous:	ALL
Reference:	NONE
Information:	NONE


Approved By: David L Reed (for)
Operations Manager

Effective Date: February 22, 2013

UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-8.0 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 2 of 11

SURVEILLANCE TEST REVIEW SHEET

SURVEILLANCE TEST NO. FNP-1-STP-8.0		TECHNICAL SPECIFICATION REFERENCE SR 3.5.5.1	
TITLE RCP SEAL INJECTION LEAKAGE TEST		MODE(S) REQUIRING TEST: 1, 2, 3	
<u>TEST RESULTS</u> (TO BE COMPLETED BY TEST PERFORMER)			
PERFORMED BY: _____ / _____ (Print) (Signature)		DATE/TIME: _____ / _____	
COMPONENT OR TRAIN TESTED (if applicable) _____			
<input type="checkbox"/> ENTIRE STP PERFORMED		<input type="checkbox"/> FOR SURVEILLANCE CREDIT	
<input type="checkbox"/> PARTIAL STP PERFORMED		<input type="checkbox"/> <u>NOT</u> FOR SURVEILLANCE CREDIT	
REASON FOR PARTIAL _____			
TEST COMPLETED <input type="checkbox"/> Satisfactory		<input type="checkbox"/> Unsatisfactory	
<input type="checkbox"/> The following deficiencies occurred _____			
<input type="checkbox"/> Corrective action taken or initiated _____			
<u>SHIFT SUPERVISOR/ SHIFT SUPPORT SUPERVISOR REVIEW</u>			
<input type="checkbox"/> Procedure properly completed and satisfactory per step 9.1 of FNP-0-AP-5			
<input type="checkbox"/> Procedure to be placed in Operations Office for IST Engineer review following OPS Review.			
<input type="checkbox"/> Comments _____			
REVIEWED BY: _____ / _____ (Print) (Signature)		DATE: _____	
*Reviewer must be AP-31 Level II certified & cannot be the Performing Individual			
<u>IST ENGINEER REVIEW (REQUIRED)</u>			
REVIEWED BY: _____ / _____ (Print) (Signature)		DATE: _____	
<input type="checkbox"/> Comments _____			

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 3 of 11	

Procedure Version Description

Version Number	Version Description
21.0	Updated procedure to requirements of NMP-OS-008-001, Operations Procedure Writing Instructions Rewrote procedure providing detailed guidance previously implied. Added Appendix 1. Changed requirement to verify throttle valves sealed for each performance, whether adjustments made or not.
22.0	Added check boxes to initial conditions. Deleted check boxes from steps that also require recording data. Step 5.9, corrected referenced step number. Inserted check boxes for P&L steps 4.1 & 4.2. Modified step 5.7.2 for clarity. Added CR references to step 5.9. Made all signoff blanks the INIT blanks per template configuration.
22.1	TE 497178 - Revised the STRS to require IST engineer review. Added new step to scan the procedure and email to FNP IST Engineer.



UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 4 of 11	

Table of Contents

	<u>Page</u>
1.0 Purpose	5
2.0 Acceptance Criteria	5
3.0 Initial Conditions	5
4.0 Precautions and Limitations	5
5.0 Instructions	6
6.0 References	8
Figure 1	9
Appendix 1	10

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 5 of 11	

1.0 Purpose

To determine the amount of seal injection flow to the reactor coolant pump seals and to verify operability of CVCS seal injection to RCP check valves (Q1E21V0115A/B/C) to pass full forward flow in accordance with the requirements of the ASME OM Code.

2.0 Acceptance Criteria

- 2.1 Manual seal injection throttle valves are adjusted to give a flow within the limits of Figure 1 with SEAL WTR INJECTION HIK 186 full open.
- 2.2 Flow through each CVCS seal injection to RCP check valve (Q1E21V0115A/B/C) is greater than 6.7 gpm.

NOTE

Asterisked steps (*) are those associated with Acceptance Criteria.

3.0 Initial Conditions


- 3.1 The version of this procedure has been verified to be the current version.
(OR 1-98-498)
- 3.2 This procedure has been verified to be the correct unit for the task.
(OR 1-98-498)
- 3.3 Reactor coolant system pressure is between 2215 psig and 2255 psig.
- 3.4 RCP seal injection system is aligned per FNP-1-SOP-2.1A.
- 3.5 IF operating at power, THEN power level is constant.
- 3.6 Reactor coolant system temperature is $\geq 290^{\circ}\text{F}$.
- 3.7 Pressurizer level is stable and in the normal operating band.
- 3.8 Charging Flow is stable.
- 3.9 Record Charging Pump(s) in Service 1A.



4.0 Precautions and Limitations

- 4.1 Do not change power level during this test.
- 4.2 When letdown flow has been changed from two orifices in service to only one orifice in service, then FNP-1-STP-8.0 must be performed immediately to verify the requirements of Technical Specification SR 3.5.5.1.



UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-8.0 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 6 of 11

5.0 Instructions

5.1 Record seal injection flow to RCPs (MCB indication).

- 1A RCP SHAFT SEAL FLOW FI 130A 7 gpm
- 1B RCP SHAFT SEAL FLOW FI 127A 7 gpm
- 1C RCP SHAFT SEAL FLOW FI 124A 7 gpm

5.2 *Increase seal water flow to maximum by fully opening SEAL WTR INJECTION HIK 186.

Bt
Initial

5.3 *Record the following (MCB indication):

- 5.3.1** 1A RCP SHAFT SEAL FLOW FI 130A 14 gpm
- 5.3.2** 1B RCP SHAFT SEAL FLOW FI 127A 13 gpm
- 5.3.3** 1C RCP SHAFT SEAL FLOW FI 124A 14 gpm
- 5.3.4** CHG HDR PRESS PI 121 2600 psig
- 5.3.5** PRZR PRESS PI 455 2242 psig
- 5.3.6** PRZR PRESS PI 456 2241 psig
- 5.3.7** PRZR PRESS PI 457 2240 psig

5.4 Adjust SEAL WTR INJECTION HIK 186 to attain desired seal injection flowrate.

Bt
Initial

5.5 Perform the following calculations:

5.5.1 Determine total seal injection flow.

Initial

Sum of values recorded in steps 5.3.1 + 5.3.2 + 5.3.3

Step 5.3.1 _____ + step 5.3.2 _____ + step 5.3.3 _____ = Total _____ gpm


5.5.2 Determine average PRZR Pressure.

Initial

Sum of values recorded in steps 5.3.5 + 5.3.6 + 5.3.7 ÷ # of operable channels.

Step 5.3.5 _____ + step 5.3.6 _____ + step 5.3.7 _____ = Total _____ psig

Total _____ psig ÷ # of operable channels _____ = Average pressure _____

UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-8.0 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 7 of 11

5.6 *Determine the FLOW LIMIT from Figure 1 based on the differential pressure between average pressurizer pressure and charging header pressure.

5.6.1 Determine ΔP as follows.

CHG HDR PRESS step 5.3.4 - Average PRZR Pressure value step 5.5.2 = ΔP

Step 5.3.4 _____ - Step 5.5.2 _____ = _____ psid

Initial

5.6.2 FLOW LIMIT from FIGURE 1 (Based on the ΔP determined in step 5.6.1.

FLOW LIMIT from FIGURE 1 _____ gpm

Initial

ACCEPTANCE CRITERIA

Total Flow within limits of Figure 1 with SEAL WTR INJECTION HIK 186 fully open.

Flow is ≥ 6.7 gpm through each line.

5.7 IF flow adjustment necessary, THEN perform the following:

5.7.1 **Adjust** seal injection manual throttle valves to obtain proper flow using
FNP-1-SOP-2.1, Appendix I, Balancing Seal Injection Flows
To RCP's and Adjusting Total Seal Injection Flow.

Initial

5.7.2 **Perform** Appendix 1 of this procedure.

Initial

5.8 **Verify** the following seal injection throttle valves are sealed in position: (NRC Cmt. 0004355) (CR 2010113165)

- 1-CVC-V-8369A (Q1E21V116A)


Initial

- 1-CVC-V-8369B (Q1E21V116B)

Initial

- 1-CVC-V-8369C (Q1E21V116C)

Initial

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 8 of 11	

5.9 IF adjustments were made per step 5.7, THEN **Independently verify** the following seal injection throttle valves are sealed in position: (NRC Cmt. 0004355) (CR 2010113165)

- 1-CVC-V-8369A (Q1E21V116A)

Initial

- 1-CVC-V-8369B (Q1E21V116B)

Initial

- 1-CVC-V-8369C (Q1E21V116C)

Initial

5.10 **Scan** the entire procedure to the following Email address: "FNP IST Engineer".

Initial

6.0 **References**

- 6.1** D-175039 - CVCS P & ID, Sheets 1 & 2
- 6.2** Fourth 10-Year Interval IST Program
- 6.3** Technical Specification 3.5.5


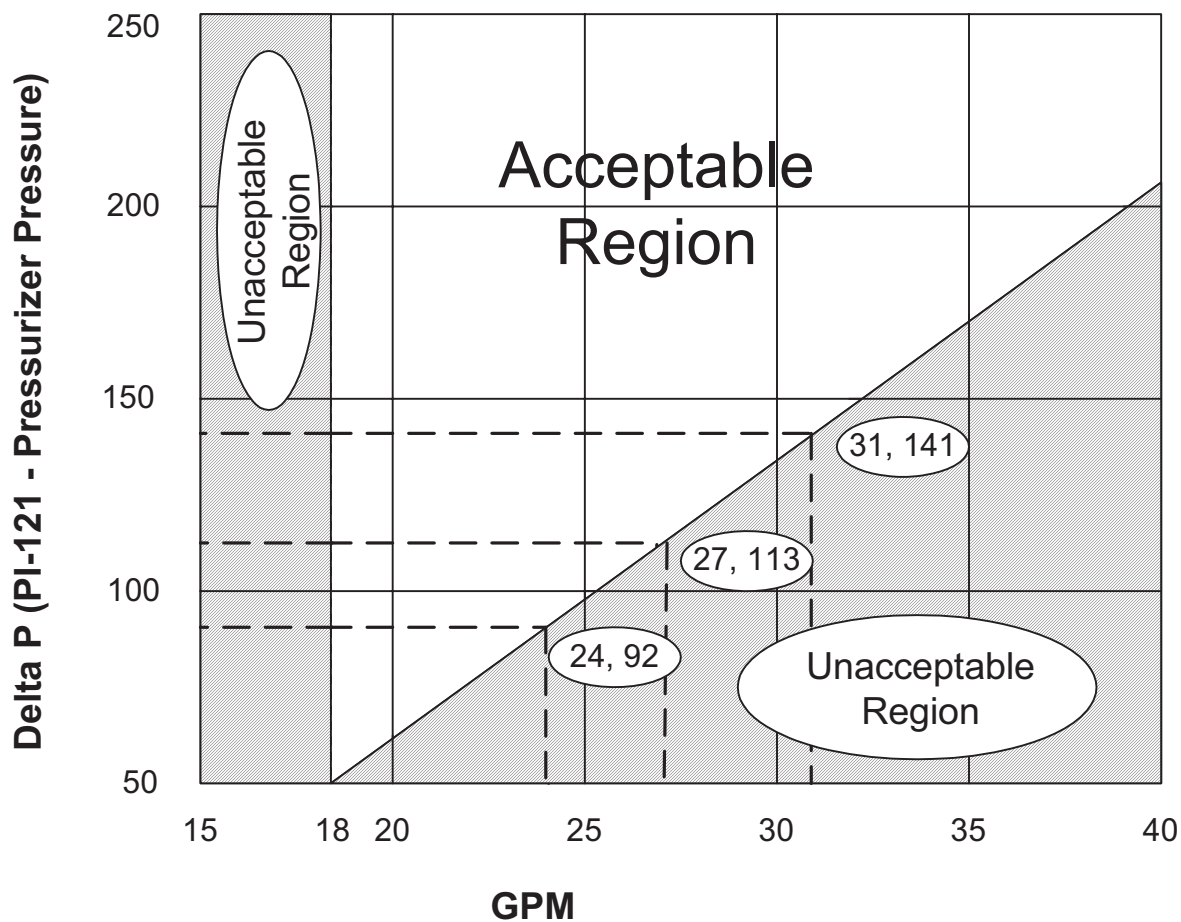

UNIT 1	Farley Nuclear Plant 	Procedure Number Ver FNP-1-STP-8.0 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 9 of 11

FIGURE 1



* FOR Delta P's > 250 PSID the Flow Limit is 40 GPM.

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 10 of 11	

Appendix 1

Throttle Valve Adjustment and Re-calculation of Controlled Leakage

NOTE

Any throttle valve adjustments should be verified acceptable per SR 3.5.5.1 by performing two FNP-1-STP-8.0s, RCP SEAL INJECTION LEAKAGE TEST, within four hours. One FNP-1-STP-8.0 should be performed with the “strongest” charging pump supplying flow and one FNP-1-STP-8.0 performed with the “weakest” charging pump supplying flow. The “strongest” and “weakest” charging pump can be determined by comparing the data in the Surveillance Test Data book. (Engineering Support should be contacted if assistance is required in making this determination.) If it is not feasible to run FNP-1-STP-8.0 using either the strongest or weakest pump (i.e., pump not capable of running or breaker racked out), then the surveillance should be run with the two available charging pumps and an admin LCO written for the inoperable pump to ensure FNP-1-STP-8.0 is run when the pump is returned to service.

7.0 Instructions

7.1 IF necessary, THEN adjust seal injection manual throttle valves to obtain proper flow and record the following below: {CMT 0004422}

Initial

7.2 *Increase seal water flow to maximum by fully opening SEAL WTR INJECTION HIK 186.

Initial

7.3*Record the following (MCB indication):

7.3.1 1A RCP SHAFT SEAL FLOW FI 130A _____ gpm

7.3.2 1B RCP SHAFT SEAL FLOW FI 127A _____ gpm

7.3.3 1C RCP SHAFT SEAL FLOW FI 124A _____ gpm

7.3.4 CHG HDR PRESS PI 121 _____ psig


7.3.5 PRZR PRESS PI 455 _____ psig

7.3.6 PRZR PRESS PI 456 _____ psig

7.3.7 PRZR PRESS PI 457 _____ psig

7.4 Adjust SEAL WTR INJECTION HIK 186 to attain desired seal injection flowrate.

Initial

UNIT 1	Farley Nuclear Plant 	Procedure Number FNP-1-STP-8.0	Ver 22.1
3/15/2013 02:08:35	RCP SEAL INJECTION LEAKAGE TEST	Page Number 11 of 11	

7.5 Perform the following calculations:

7.5.1 Determine total seal injection flow.

Initial

Sum of values recorded in steps 7.3.1 + 7.3.2 + 7.3.3

Step 7.3.1 _____ + step 7.3.2 _____ + step 7.3.3 _____ = Total _____ gpm

7.5.2 Determine average PRZR Pressure.

Initial

Sum of values recorded in steps 7.3.5 + 7.3.6 + 7.3.7 ÷ # of operable channels.

Step 7.3.5 _____ + step 7.3.6 _____ + step 7.3.7 _____ = Total _____ psig

Total _____ psig ÷ # of operable channels _____ = Average pressure _____

7.6 *Determine the FLOW LIMIT from Figure 1 based on the differential pressure between average pressurizer pressure and charging header pressure.

7.6.1 Determine ΔP as follows.

CHG HDR PRESS step 7.3.4 - Average PRZR Pressure value step 7.5.2 = ΔP

Step 7.3.4 _____ - Step 7.5.2 _____ = _____ psid

Initial

7.6.2 FLOW LIMIT from FIGURE 1 (Based on the ΔP determined in step 7.6.1).

FLOW LIMIT from FIGURE 1 _____ gpm

Initial

ACCEPTANCE CRITERIA

Total Flow within limits of Figure 1 with SEAL WTR INJECTION HIK 186 fully open.

Flow is ≥ 6.7 gpm through each line.

NOTE

The surveillance can be recorded as satisfactory even if acceptance criteria not satisfied at step 5.6, providing acceptance criteria satisfied following adjustment per Appendix 1.

7.7 Return to step 5.8 in the body of the procedure.

Initial

A.3 Conduct of operations ADMIN SRO + ROTITLE: **Determine Access Personnel Exposure**EVALUATION LOCATION: X CLASS ROOMPROJECTED TIME: 30 MIN SIMULATOR IC NUMBER: N/A ALTERNATE PATH TIME CRITICAL PRA **JPM DIRECTIONS:**

1. Initiation of task may be in group setting, evaluation performed individually upon completion.
2. Provide student with HANDOUT and calculator.
3. Allow time to review data.

TASK STANDARD: Upon successful completion of this JPM, the examinee will:

- Determine the best route to minimize exposure and recognize workers current limit will not allow either route.

Examinee:Overall JPM Performance: Satisfactory ☐ Unsatisfactory ☐**Evaluator Comments** (attach additional sheets if necessary)**EXAMINER:** _____

Developer	Aaron Forsha	Date: 2/13/2013
NRC Approval	SEE NUREG 1021 FORM ES-301-3	

CONDITIONS

This is pre-job brief: When I tell you to begin, you are to determine which route allows the lowest exposure and if total personnel exposure for a containment entry and valve operation is acceptable without exceeding your dose limits.

- a. Unit 1 is shutdown and the crew is attempting to place a system in service, but they are unable to remotely open a valve.
- b. You have been tasked with **entering containment alone, manually opening the valve and then returning to your work location.**
- c. Your allowable dose limit is 18 mrem.
- d. Health Physics personnel are currently unavailable to provide calculation assistance.
- e. Two routes are available to the valve:
 - Route 1 consists of two segments.
 Segment 1 has you walk through a 40 mrem/hr general field for 3 minutes.
 Segment 2 has you walk in a 60 mrem/hr general field to the valve for 5 minutes
 Total time to reach valve is 8 minutes
 - Route 2 consists of two segments.
 Segment 1 has you walk through a 10 mrem/hr general field for 6 minute.
 Segment 2 has you walk in a 60 mrem/hr general field to the valve for 5 minutes
 Total time to reach valve is 11 minutes
 - Manual operation of the valve is in a 120 mrem/hr field and you should be able to open the valve in 5 minutes
 - For each routes evaluation use the same route for leaving containment.

You task is to:

1. Determine the best route (roundtrip) to minimize total exposure.
2. Determine if containment entry and valve operation is acceptable without exceeding your dose limits.
3. Complete answer table below.

INITIATING CUE: "You may begin."

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
_____ START TIME		

NOTE: The applicant can perform the calculations in any order.

- | | | |
|--------------------------------|--|-------|
| 1. Calculate exposure at valve | $120 \text{ mrem/hr} * 1 \text{ hr}/60 \text{ min} * 5 \text{ min} =$
10 mrem | S / U |
|--------------------------------|--|-------|

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
2. Calculate exposure from using Route 1	Segment 1 $40 \text{ mrem/hr} * 1\text{hr}/60 \text{ min} * 3 \text{ min} * 2$ $= 4 \text{ mrem}$ Segment 2 $60 \text{ mrem/hr} * 1\text{hr}/60 \text{ min} * 5 \text{ min} * 2$ $= 10 \text{ mrem}$ Total Dose $4 + 10 + 10 = 24 \text{ mrem}$	S / U
3. Calculate exposure from using Route 2	Segment 1 $10 \text{ mrem/hr} * 1\text{hr}/60 \text{ min} * 6 \text{ min} * 2$ $= 2 \text{ mr}$ Segment 2 $60 \text{ mrem/hr} * 1\text{hr}/60 \text{ min} * 5 \text{ min} * 2$ $= 10 \text{ mr}$ Total Dose $2 + 10 + 10 = 22 \text{ mrem}$	S / U
*4. Determine the lowest exposure path	Compared results of calculations and determined that: Route 2 to be the lowest exposure.	S / U
*5. Compare calculated exposure to margin	Compared exposure to margin and determined: NOT acceptable be made within allowable margin of 18 mrem.	S / U

STOP TIME

Terminate JPM when it is determined that no success path exists without exceeding dose margin limits.

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

1. GEN-004 Radiation Worker Training/Retraining
2. KA 2.3.4 RO 3.2 SRO 3.7

GENERAL TOOLS AND EQUIPMENT:

Provide: Calculator

Critical ELEMENT justification:**STEP****Evaluation**

1. **Not critical:** This is common to both paths.
2. **Not critical:** Calculation only.
3. **Not critical:** Calculation only.
4. **Critical:** Answer is the assigned task.
5. **Critical:** Answer is the assigned task.

COMMENTS:**KEY**

Solution Matrix		Circle One
Best route to minimize exposure is:	Route 1	Route 2
Acceptable to perform this task:	Yes	No

HANDOUT

CONDITIONS

This is pre-job brief: When I tell you to begin, you are to determine which route allows the lowest exposure and if total personnel exposure for a containment entry and valve operation is acceptable without exceeding your dose limits.

- a. Unit 1 is shutdown and the crew is attempting to place a system in service, but they are unable to remotely open a valve.
- b. You have been tasked with **entering containment alone, manually opening the valve and then returning to your work location.**
- c. Your allowable dose limit is 18 mrem.
- d. Health Physics personnel are currently unavailable to provide calculation assistance.
- e. Two routes are available to the valve:
 - Route 1 consists of two segments.
 - Segment 1 has you walk through a 40 mrem/hr general field for 3 minutes.
 - Segment 2 has you walk in a 60 mrem/hr general field to the valve for 5 minutes
 - Total time to reach valve is 8 minutes
 - Route 2 consists of two segments.
 - Segment 1 has you walk through a 10 mrem/hr general field for 6 minute.
 - Segment 2 has you walk in a 60 mrem/hr general field to the valve for 5 minutes
 - Total time to reach valve is 11 minutes
 - Manual operation of the valve is in a 120 mrem/hr field and you should be able to open the valve in 5 minutes
 - For each routes evaluation use the same route for leaving containment.

You task is to:

1. Determine the best route (roundtrip) to minimize total exposure.
2. Determine if containment entry and valve operation is acceptable without exceeding your dose limits.
3. Complete answer table below.

Circle your answer below

Best route to minimize exposure is:	Route 1	Route 2
Acceptable to perform containment entry and valve operation:	Yes	No

A.4 Admin SRO only - Emergency Plan

TITLE: Classify an Emergency Event per NMP-EP-110, Emergency Classification Determination and Initial Action, and complete Checklist 1, Classification Determination.

EVALUATION LOCATION: X CLASS ROOM

PROJECTED TIME: 25 MIN SIMULATOR IC NUMBER: N/A

ALTERNATE PATH TIME CRITICAL X PRA

THIS JPM IS TIME CRITICAL

JPM DIRECTIONS:

1. This task can be conducted individually or in a group setting in which all the necessary references are available.
2. Provide the candidate the HANDOUT page and a copy of Checklist 1, Classification Determination, to allow for familiarization with the task for the event in progress.
3. Allow the candidate time to review and understand the task.
4. Then, provide the candidate a copy of the procedure NMP-EP-110 AND NMP-EP-110-GL001, and direct the candidate to begin; This starts the time critical time.
5. When the candidate indicates that he has completed his task, record the time of completion. This ends the TIME CRITICAL portion of the task.
6. Upon completion of EP-110, Checklist 1, provide a copy of EP-111, Figure 1 and give the instructions of step 2 of the task to complete EP-111, Figure 1, steps 10 and 11.
7. Ensure a clock is in the room in which this task will be conducted.

CAUTION: A KEY (2 pages) is included and precedes the student handout.

TASK STANDARD: Upon successful completion of this JPM, the examinee will:

- Correctly assess the Classification and correctly fill out EP-110, Checklist 1; which includes line 5; Name, Date and Time. The time is required to be within 15 minutes of the Start Time.
- Correctly assess the type of declaration and affected Unit and correctly fill out EP-111, Figure 1, steps 10 & 11.

Examinee:	
Overall JPM Performance:	Satisfactory <input type="checkbox"/> Unsatisfactory <input type="checkbox"/>
Evaluator Comments (attach additional sheets if necessary)	

EXAMINER: _____

Developer	Aaron Forsha	Date: 2/6/2012
NRC Approval	SEE NUREG 1021 FORM ES-301-3	

CONDITIONS

When I tell you to begin, you are to Classify an Emergency Event per NMP-EP-110, Emergency Classification Determination and Initial Action, and complete Checklist 1, Classification Determination.

The conditions under which this task is to be performed are:

- a. FNP-0-AOP-49 IMMINENT SECURITY THREAT has been entered due to a confirmed attack at the AL- 95 main gate.
- b. **Unit 1** was tripped from 70% power. ESP-0.1 and AOP-2.0 are in progress due to a 20 gpm SG tube leak.
- c. **Unit 1** indications are as follows:
 - R-15A, SJAЕ EXH, is in alarm and is reading 1×10^6 cpm.
 - R-15C, Condenser Air Ejector (High Range) is reading 0.070 R/hr.
- d. **Unit 2** was tripped from 100% power. Entry conditions for FRP-H.1 have been met and FRP-H.1 actions are in progress.
- e. The current MET Tower data is as follows:
 - Wind Direction from 125 degrees.
 - Wind Speed 4.5 mph.
 - Precipitation none.
 - Stability Class E.

NOTE: The classification should NOT be based on ED discretion

Your task is to classify the event, fill out NMP-EP-110, Checklist 1, Classification Determination Form, through step 6.

This task has TIME CRITICAL elements.

Upon completion, report to the proctor that you have finished.

INITIATING CUE: “You may begin, Place the **TIME** in the **START CRITICAL TIME** space.”

Part 2 – administer this portion of the JPM after completion of the above task.

JPM DIRECTIONS:

1. Provide student with **Part 2 HANDOUT** and page (1 of 2) NMP-EP-111 Figure 1.

CONDITIONS

Based on your previously provided conditions, complete steps 10 and 11 of NMP-EP-111, Figure 1, Emergency Notification Form (page 1 of 2). This task is NOT TIME CRITICAL.

Ensure the CANDIDATE places the START TIME on the HANDOUT SHEET.

Put that same time in the START CRITICAL TIME block below.

EVALUATION CHECKLIST

ELEMENTS:	STANDARDS:	RESULTS: (CIRCLE)
____ START CRITICAL TIME		
1. Applicant completes Steps 1, 2, and 3 of Checklist 1 by providing all of the following information (see answer key).	<ul style="list-style-type: none"> Fuel Cladding Integrity: <i>POTENTIAL LOSS</i> Reactor Coolant System: <i>POTENTIAL LOSS</i> Containment Integrity: <i>INTACT</i> Highest applicable fission product barrier Initiating Condition: <i>FSI</i> 	S / U
* 2. Applicant completes Steps 4, 5, and 6 of Checklist 1 by providing all of the following critical information (see answer key) and provides the completed Checklist 1 to the proctor <u>within 15 minutes.</u>	<ul style="list-style-type: none"> Highest applicable IC/EAL: <i>FSI</i> Classification: <i>Site Area – FSI</i> Name of Applicant, date, and current time <p><u>Met data is not critical since it is not required to be added to the form for an initial</u></p> <ul style="list-style-type: none"> Meteorological Data: <i>125°F, 4.5 mph, E, none</i> 	S / U

____ STOP CRITICAL TIME

Part 2 – administer this portion of the JPM after completion of the above task.

* 3. After the applicant has turned in his/her completed Checklist 1, provide a copy of NMP-EP-111, Figure 1, Emergency Notification Form, Page 1 of 2 and ask the applicant to complete Steps 10 & 11.	<ul style="list-style-type: none"> Step 10. Declaration Time: <i>From classification form</i> Step 11. Affected Unit: <i>Box 2 – For Unit 2</i> 	S / U
---	---	-------

____ STOP TIME

Terminate when all elements of the task have been completed.
--

CRITICAL ELEMENTS: Critical Elements are denoted with an asterisk (*) before the element number.

GENERAL REFERENCES:

1. NMP-EP-110 Version 4.0
2. NMP-EP-110-GL01, Version 2.0
3. NMP-EP-111 Version 7.1
4. KA: G2.4.41 SRO (4.6)

GENERAL TOOLS AND EQUIPMENT:

NMP-EP-110
NMP-EP-110-GL01
NMP-EP-111

Critical ELEMENT justification:**STEP****Evaluation**

1. **Not critical** since this part of the form is not required to be filled out to provide a correct classification.
2. **Critical:** Task completion; information provided is essential for correct classification and Emergency Notification form being correctly filled out within required time.
3. **Critical:** Task completion; information provided is essential for correct Emergency Notification form being correctly filled out.

COMMENTS:

This event has an overall classification of an ALERT, HA4, for the security event.
Unit 1 is in an ALERT, RA1.
Unit 2 is in a higher classification.

Filling out EP-111, figure 1, blocks 10 and 11 is appropriate since these are high miss issues and tests the applicant's ability to find the correct instructions for these blocks and follow those directions correctly.

KEY part 1

Checklist 1 – Classification Determination (page 1 of 1)

NOTE

Key Parameters should be allowed to stabilize to accurately represent plant conditions prior to classifying an event.

Initial Actions

Completed
by

1. **Determine** the appropriate Initiating Condition Matrix for classification of the event based on the current operating mode:

AF

X HOT IC/EAL Matrix Evaluation Chart (**GO** to Step 2) to evaluate the Barriers)

☐ COLD IC/EAL Matrix Evaluation Chart (**GO** to Step 3)

2. Evaluate the status of the fission product barrier using Figure 1, Fission Product Barrier Evaluation.

- a. Select the condition of each fission product barrier:

AF

	LOSS	POTENTIAL LOSS	INTACT
Fuel Cladding Integrity	<input type="checkbox"/>	X	<input type="checkbox"/>
Reactor Coolant System	<input type="checkbox"/>	X	<input type="checkbox"/>
Containment Integrity	<input type="checkbox"/>	<input type="checkbox"/>	X

- b. Determine the highest applicable fission product barrier Initiating Condition (IC):

AF

(select one) ☐ FG1 X FS1 ☐ FA1 ☐ FU1 ☐ None

3. **Evaluate** and **determine** the highest applicable IC/EAL using the Matrix Evaluation Chart identified in step 1 **THEN GO** to step 4.

AF

IC# _____ FS1 _____ or ☐ None

4. **Check** the **highest** emergency classification level identified from either step 2b or 3:

AF

<u>Classification</u>	<u>Based on IC#</u>	<u>Classification</u>	<u>Based on IC#</u>
<input type="checkbox"/> General	_____	<input type="checkbox"/> Alert	_____
X Site-Area	FS1	<input type="checkbox"/> NOUE	_____
		<input type="checkbox"/> None	N/A

Remarks (Identify the specific EAL, as needed): _____

5. **Declare** the event by approving the Emergency Classification.

AF

Candidate Signature Date: Date / / Time: Time
Emergency Director

6. **Obtain** Meteorological Data (not required prior to event declaration):

Wind Direction (from) 125 Wind Speed 4.5 Stability Class E Precipitation none

AF

7. **Initiate** Checklist 2, Emergency Plan Initiation.

KEY part 2

Figure 1 – Emergency Notification Form (page 1 of 2)

1. ☒ DRILL ☐ ACTUAL EVENT MESSAGE # _____
 2. ☒ INITIAL ☐ FOLLOW-UP NOTIFICATION: TIME _____ DATE ____/____/____ AUTHENTICATION # _____
 3. SITE: _____ Confirmation Phone # _____

4. EMERGENCY CLASSIFICATION: ☒ UNUSUAL EVENT ☐ ALERT ☐ SITE AREA EMERGENCY ☐ GENERAL EMERGENCY
 BASED ON EAL# _____ EAL DESCRIPTION: _____

5. PROTECTIVE ACTION RECOMMENDATIONS: ☒ NONE
☐ EVACUATE _____
☐ SHELTER _____
☐ Advise Remainder of EPZ to Monitor Local Radio/TV Stations/Tone Alert Radios for Additional Information and Consider the use of KI (potassium iodide) in accordance with State plans and policy.
☐ OTHER _____

6. EMERGENCY RELEASE: ☒ None ☐ Is Occurring ☐ Has Occurred
 7. RELEASE SIGNIFICANCE: ☒ Not applicable ☐ Within normal operating limits ☐ Above normal operating limits ☐ Under evaluation
 8. EVENT PROGNOSIS: ☒ Improving ☐ Stable ☐ Degrading
 9. METEOROLOGICAL DATA: Wind Direction from _____ degrees* Wind Speed _____ mph*

(*May not be available for Initial Notifications)* Precipitation _____* Stability Class* ☒ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

10. ☒ DECLARATION ☐ TERMINATION Time LINE 5 EP-110 Form Date LINE 5 EP-110 Form

11. AFFECTED UNIT(S): ☐ I ☒ II ☐ All

12. UNIT STATUS:
 (Unaffected Unit(s) Status Not Required for Initial Notifications)
☒ U1 _____ % Power Shutdown at Time _____ Date ____/____/____
☐ U2 _____ % Power Shutdown at Time _____ Date ____/____/____

13. REMARKS: _____

FOLLOW-UP INFORMATION (Lines 14 through 16 Not Required for Initial Notifications)

EMERGENCY RELEASE DATA NOT REQUIRED IF LINE 6 A IS SELECTED.

14. RELEASE CHARACTERIZATION: TYPE: ☒ Elevated ☐ Mixed ☐ Ground UNITS: ☒ Ci ☐ Ci/sec ☐ µCi/sec

MAGNITUDE: Noble Gases: _____ Iodines: _____ Particulates: _____ Other: _____

FORM: ☒ Airborne Start Time _____ Date ____/____/____ Stop Time _____ Date ____/____/____
☐ Liquid Start Time _____ Date ____/____/____ Stop Time _____ Date ____/____/____

15. PROJECTION PARAMETERS: Projection period: _____ Hours Estimated Release Duration _____ Hours
 Projection performed: Time _____ Date ____/____/____ Accident Type: _____

16. PROJECTED DOSE: DISTANCE TEDE (mrem) Adult Thyroid CDE (mrem)
 Site boundary _____ _____
 2 Miles _____ _____
 5 Miles _____ _____
 10 Miles _____ _____

17. APPROVED BY: _____ Title _____ Time _____ Date ____/____/____

NOTIFIED BY: _____
 RECEIVED BY: _____ Time _____ Date ____/____/____
 (To be completed by receiving organization)

This Page
Intentionally Blank

Part 2

HANDOUT

CONDITIONS

Based on your previously provided conditions, complete steps 10 and 11 of NMP-EP-111, Figure 1, Emergency Notification Form (page 1 of 2). This task is NOT TIME CRITICAL.


Southern Nuclear Operating Company		
	Emergency Implementing Procedure Emergency Notifications	NMP-EP-111 Version 7.4 Page 35 of 47

Figure 1 – Emergency Notification Form (page 1 of 2)

1. ☐ DRILL ☐ ACTUAL EVENT MESSAGE # _____

2. ☐ INITIAL ☐ FOLLOW-UP NOTIFICATION: TIME _____ DATE ____/____/____ AUTHENTICATION # _____

3. SITE: _____ Confirmation Phone # _____

4. EMERGENCY CLASSIFICATION: ☐ UNUSUAL EVENT ☐ ALERT ☐ SITE AREA EMERGENCY ☐ GENERAL EMERGENCY

BASED ON EAL# _____ EAL DESCRIPTION: _____

5. PROTECTIVE ACTION RECOMMENDATIONS: ☐ NONE

☐ EVACUATE _____

☐ SHELTER _____

☐ Advise Remainder of EPZ to Monitor Local Radio/TV Stations/Tone Alert Radios for Additional Information and Consider the use of KI (potassium iodide) in accordance with State plans and policy.

☐ OTHER _____

6. EMERGENCY RELEASE: ☐ None ☐ Is Occurring ☐ Has Occurred

7. RELEASE SIGNIFICANCE: ☐ Not applicable ☐ Within normal operating limits ☐ Above normal operating limits ☐ Under evaluation

8. EVENT PROGNOSIS: ☐ Improving ☐ Stable ☐ Degrading

9. METEOROLOGICAL DATA: Wind Direction from _____ degrees* Wind Speed _____ mph*

(*May not be available for Initial Notifications)* Precipitation _____* Stability Class* ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

10. ☐ DECLARATION ☐ TERMINATION Time _____ Date ____/____/____

11. AFFECTED UNIT(S): ☐ 1 ☐ 2 ☐ All

12. UNIT STATUS: ☐ U1 _____ % Power Shutdown at Time _____ Date ____/____/____

(Unaffected Unit(s) Status Not Required for Initial Notifications) ☐ U2 _____ % Power Shutdown at Time _____ Date ____/____/____

13. REMARKS: _____

FOLLOW-UP INFORMATION (Lines 14 through 16 Not Required for Initial Notifications)

EMERGENCY RELEASE DATA NOT REQUIRED IF LINE 6 A IS SELECTED.

14. RELEASE CHARACTERIZATION: TYPE: ☐ Elevated ☐ Mixed ☐ Ground UNITS: ☐ Ci ☐ Ci/sec ☐ µCi/sec

MAGNITUDE: Noble Gases: _____ Iodines: _____ Particulates: _____ Other: _____

FORM: ☐ Airborne Start Time _____ Date ____/____/____ Stop Time _____ Date ____/____/____

☐ Liquid Start Time _____ Date ____/____/____ Stop Time _____ Date ____/____/____

15. PROJECTION PARAMETERS: Projection period: _____ Hours Estimated Release Duration _____ Hours

Projection performed: Time _____ Date ____/____/____ Accident Type: _____

16. PROJECTED DOSE: DISTANCE TEDE (mrem) Adult Thyroid CDE (mrem)

Site boundary		
2 Miles		
5 Miles		
10 Miles		

17. APPROVED BY: _____ Title _____ Time _____ Date ____/____/____

NOTIFIED BY: _____

RECEIVED BY: _____ Time _____ Date ____/____/____

(To be completed by receiving organization)

HANDOUT

CONDITIONS

When I tell you to begin, you are to **Classify an Emergency Event per NMP-EP-110, Emergency Classification Determination and Initial Action, and complete Checklist 1, Classification Determination.**

The conditions under which this task is to be performed are:

- a. FNP-0-AOP-49 has been entered due to a confirmed attack at the AL- 95 main gate.
- b. **Unit 1** was tripped from 70% power. ESP-0.1 and AOP-2.0 are in progress due to a 20 gpm SG tube leak.
- c. **Unit 1** indications are as follows:
 - R-15A, SJAE EXH, is in alarm and is reading 1×10^6 cpm.
 - R-15C, Condenser Air Ejector (High Range) is reading 0.070 R/hr.
- d. **Unit 2** was tripped from 100% power. Entry conditions for FRP-H.1 have been met and FRP-H.1 actions are in progress.
- e. The current MET Tower data is as follows:
 - Wind Direction from 125 degrees.
 - Wind Speed 4.5 mph.
 - Precipitation none.
 - Stability Class E.


NOTE: The classification should NOT be based on ED discretion

Your task is to classify the event, fill out NMP-EP-110, Checklist 1, Classification Determination Form, through step 6.

This task has TIME CRITICAL elements.

Upon completion, report to the proctor that you have finished.

 START TIME

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 13 of 25

Checklist 1 – Classification Determination (page 1 of 1)

<p>NOTE</p> <p>Key Parameters should be allowed to stabilize to accurately represent plant conditions prior to classifying an event.</p>

Initial Actions

Completed
by _____

1. **Determine** the appropriate Initiating Condition Matrix for classification of the event based on the current operating mode:

- ☐ HOT IC/EAL Matrix Evaluation Chart (**GO** to Step **2**) to evaluate the Barriers)
- ☐ COLD IC/EAL Matrix Evaluation Chart (**GO** to Step **3**)

2. Evaluate the status of the fission product barrier using Figure 1, Fission Product Barrier Evaluation.

- a. Select the condition of each fission product barrier:

	LOSS	POTENTIAL LOSS	INTACT
Fuel Cladding Integrity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reactor Coolant System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Containment Integrity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b. Determine the highest applicable fission product barrier Initiating Condition (IC):

(select one) ☐ FG1 ☐ FS1 ☐ FA1 ☐ FU1 ☐ None

3. **Evaluate** and **determine** the highest applicable IC/EAL using the Matrix Evaluation Chart identified in step 1 **THEN GO** to step 4.

IC# _____ or ☐ None

4. **Check** the **highest** emergency classification level identified from either step 2b or 3:

<u>Classification</u>	<u>Based on IC#</u>	<u>Classification</u>	<u>Based on IC#</u>
<input type="checkbox"/> General	_____	<input type="checkbox"/> Alert	_____
<input type="checkbox"/> Site-Area	_____	<input type="checkbox"/> NOUE	_____
		<input type="checkbox"/> None	N/A

Remarks (Identify the specific EAL, as needed): _____


5. **Declare** the event by approving the Emergency Classification.

Emergency Director Date: ____/____/____ Time: _____

6. **Obtain** Meteorological Data (not required prior to event declaration):

Wind Direction (from)____ Wind Speed____ Stability Class____ Precipitation_____

7. **Initiate** Checklist 2, Emergency Plan Initiation.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 1 of 25

Peer Team Champion/ Procedure Owner: Penny Reister / Fleet EP Manager / Corporate
(Print: Name / Title / Site)

Approved By: Original signed by Penny Reister / 10/26/2012
(Procedure Owner's Approval Signature) (Approval Date)


Effective Dates: 10/31/2012 10/31/2012 10/31/2012 10/31/2012 N/A
Corporate FNP HNP VEGP 1-2 VEGP 3-4

PRB Review Not Required

This NMP is under the oversight of Nuclear Fleet Emergency Preparedness Manager.

Writer(s): Christopher E. Boone
Judith D. Grant

PROCEDURE LEVEL OF USE CLASSIFICATION PER NMP-AP-003	
CATEGORY	SECTIONS
Continuous:	Checklist 1
Reference:	Checklist 2 Applicable Site Specific IC/EAL Guideline Checklist 3
Information:	Remainder of Procedure

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 2 of 25

Procedure Version Description

Version Number	Version Description
1.0	Implements a common fleet procedure for classifying and declaring an emergency at any Southern Nuclear Operating Company facility.
2.0	Incorporate other Emergency Director functions/responsibilities in checklist 2, VEGP AI#2010206970
3.0	Incorporated changes to Table of Contents for clarification and Incorporated changes to Checklist 2 – Emergency Plan Initiation. Incorporated Requested changes CTE 313937 – Inserted Note prior to step 3 of Checklist 3.
3.1	Incorporated Editorial Changes: 1) Corrected duplicate numbering on checklist 2, 2) Replaced “ process” with “progress” in definitions (CTE335575 / VTE326708)
4.0	Incorporates new EP Rule guidance items in: 1) the main body of the procedure to address classification timeliness 2) checklist 2 to address protective actions and alternate facility activation during security events. Also added Checklist 3 to table of contents and corrected typographical error for procedure reference in step 6.4.4
4.1	Revised Checklist 2- Emergency Plan Initiation Step 5 to incorporate the utilization of the Nuclear Duty Officer (NDO) as a single point of contact for Operational issues between the sites and the Corporate Office. (TE200700)
5.0	(CTE 420883, FTE 460836, FTE 328828) Incorporated changes to Checklist 2 Step 4 for activities at the Notification of Unusual Event (NUE) level and reordered steps logically regarding filling vacant ERO positions. (VCR 533264) Added clarification steps to section 6.1 Precautions / Limitations. (HCAR195479, CCAR195659) Incorporated changes in section 5.1 for ED responsibilities.



Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action	NMP-EP-110
			Version 5.0 Page 3 of 25

Table of Contents

	<u>Page</u>
1.0 Purpose.....	4
2.0 Applicability	4
3.0 References	4
4.0 Definitions	4
5.0 Responsibilities	5
6.0 Procedure.....	6
7.0 Records.....	12
8.0 Commitments	12
Checklist 1 – Classification Determination	13
Checklist 2 – Emergency Plan Initiation	14
Checklist 3 – Emergency Director Transfer of Responsibilities.....	21
Figure 1 - Timeline for Implementation of Emergency Plan from the Control Room	24
Figure 2 - Timeline for Implementation of Emergency Plan from the TSC and EOF	25

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 4 of 25

1.0 **Purpose**

The purpose of this procedure is to provide instructions for the classification of off-normal events into one of four emergency classification levels. This procedure establishes the methodology for emergency classification and delineates the initial actions required by the Emergency Director.

2.0 **Applicability**


This procedure applies to emergency classification determinations and associated initial responses. This procedure will be utilized for actual emergencies, emergency drills/exercises, or training as required. This procedure is applicable to all SNC sites.

3.0 **References**

- 3.1 Vogtle Emergency Plan
- 3.2 HNP Emergency Plan
- 3.3 FNP Emergency Plan
- 3.4 NMP-EP-111, "Emergency Notifications"
- 3.5 NMP-EP-112, "Protective Action Recommendations"
- 3.6 NUREG 1022, Rev. 2, Event Reporting Guidelines 10 CFR 50.72 and 50.73
- 3.7 INPO L2IER 1-39, Lack of Timely Emergency Response Organization and Emergency Response Facility Activation

4.0 **Definitions**

- 4.1 **Notification of Unusual Event (NOUE)** - Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.
- 4.2 **Alert** - Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of Hostile Action. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 5 of 25

4.3 **Site Area Emergency** - Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or Hostile Actions that result in intentional damage or malicious acts; 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to, equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.

4.4 **General Emergency** - Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or Hostile Action that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

5.0 **Responsibilities**


5.1 Emergency Director (ED)

5.1.1 The ED has the following non-delegable responsibilities:

- The decision to declare, escalate, or terminate emergency classifications.
- The decision to notify offsite emergency response agencies.
- The decision to recommend protective actions to offsite authorities.
- The decision to request federal assistance.
- Authorization for plant personnel to exceed 10CFR20 radiation exposure limits.
- Authorization for use of potassium iodide (KI) tablets during a declared emergency.
- The decision to dismiss nonessential personnel from the site at an ALERT or higher emergency classification.

5.1.2 The ED has the following delegable responsibilities:

- Maintaining communications with offsite authorities regarding all aspects of emergency response.
- Providing overall direction for management of procurement of site-needed materials, equipment, and supplies, documentation, accountability, and security function.
- Directing the notification and activation of the emergency organization; including emergency response facility activation.
- Coordinating and directing emergency operations.
- If requested by offsite agencies, the ED shall dispatch SNC representatives to offsite government centers.
- Modifying Emergency Plan Implementing Procedures, Security Plan, Security Plan Implementing Procedures and adjusting Emergency Response Organization staffing.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action	NMP-EP-110
			Version 5.0 Page 6 of 25

- Coordinating NRC activities to reduce the duplication of effort and reduce the impact on the plant staff during the emergency situation.
- Directing the assignment of an individual as Decision Maker if Severe Accident Management Guidelines (SAMG) are implemented.

5.1.3 The Shift Manager (SM) is responsible for initial classification of events. The SM shall assume the responsibilities of the ED until relieved by another qualified ED.

5.1.4 If the SM is unavailable, an ED qualified person will assume the responsibilities of the ED until relieved.

5.1.5 Transfer of ED responsibilities is completed in accordance with Checklist 3.

5.1.6 After turnover of ED responsibilities, the SM then continues to be responsible for recognizing changes in plant conditions and advising the ED concerning classification of events.

5.1.7 Any one of the following qualified persons may assume the position of ED after receipt of turnover information from the off going ED.

- Plant Manager
- Site Support Manager
- Operations Manager
- Maintenance Manager
- Any qualified Emergency Director

5.1.8 The Technical Support Center (TSC) Manager and Emergency Operations Facility (EOF) Manager are responsible for providing recommendations on emergency classifications to the ED.

6.0 **Procedure**

6.1 Precautions / Limitations


6.1.1 This procedure establishes minimum requirements for emergency classification. The ED may use judgment as the final criterion for determining the classification of off-normal events that are not included in this procedure.

6.1.2 The value of any emergency actions, which may require movement of plant personnel, must be judged against the danger to personnel or nuclear safety.

6.1.3 Classification should not be delayed in anticipation of either events being terminated or the threat to safety ending.


6.1.4 Personnel and plant safety must be addressed as the highest priority, if necessary, prior to an emergency classification.

6.1.5 The ED shall assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an EAL has


Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action	NMP-EP-110
			Version 5.0 Page 7 of 25

been exceeded The 15-minute period encompasses all assessment, classification, and declaration actions associated with making an emergency declaration from the first availability of a plant indication or receipt of a report of an off-normal condition by plant operators up to and including the declaration of the emergency. If classifications and declarations are performed away from the control room, all delays incurred in transferring information from the control room (where the alarms, indications, and reports are first received) to the Emergency Response Facility (at which declarations are made) are included within the 15 minute criterion.

- 6.1.6 Once indication of an abnormal condition is available, classification declaration must be made within 15 minutes. This time period is meant to provide sufficient time to accurately assess the emergency conditions and then evaluate the need for an emergency classification based on the assessment performed. It does not allow a delay of 15 minutes if the classification is recognized to be necessary.
- 6.1.7 When evaluating EALs that specify a duration of the off normal condition, the Emergency Director should declare the event as soon as the condition has exceeded, or it is determined that is likely to exceed, the applicable duration. The declaration process should run concurrently with the specified threshold in the EAL (i.e., the ED should be preparing paperwork, evaluating emergency classification, etc. during the time of the specified duration).
- 6.1.8 IF the ED believes a threshold is exceeded and is classifying an event, when new key information becomes available, it may be appropriate to allow time for evaluation of this new information. All pertinent available indications that could change the classification level should be considered. There are no absolutes when making this call but the ED has the latitude to evaluate new information as it becomes available. Once sufficient information is available to verify that the EAL has been exceeded it should be classified promptly.
- 6.1.9 Emergency Plan Initiation is accomplished through the use of Checklist 2, Emergency Plan Initiation. Checklist items are listed in order of priority. Actions may be taken in parallel if resources are available.
- 6.1.10 Events should be classified based on meeting the Initiating Condition (IC) and Threshold Value (TV) for an EAL considering each Unit independently. If both Units are in concurrent events, then the highest classification must be made and used for the Offsite notifications with the other Unit events noted on the Emergency Notification form.
- 6.1.11 Strategies for coping with extreme or extensive damage to plant components will be implemented utilizing Emergency Management Guidelines (NMP-EP-400 series) and associated Extensive Damage Mitigation Guideline (EDMG) as appropriate.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action	NMP-EP-110
			Version 5.0 Page 8 of 25

- 6.1.12 A security related emergency may delay the ordering of assembly and accountability in order to protect plant personnel from the security threat. The decision to delay the order for assembly and accountability will be made by the Emergency Director. (2002342760)
- 6.1.13 A security incident/emergency may require the ED to modify security procedures and/or emergency plan implementing procedures. See Checklist 2 of this procedure for procedure modification instructions.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 9 of 25

6.2 Classification and Emergency Plan Initiation

NOTE

For those events which are corrected, or the threat to the level of safety of the plant has ended prior to completion of classification/notification processes, it is permissible to classify the event and terminate the event with the initial emergency notification message. In this circumstance termination does not require consultation with off-site authorities.

6.2.1 Classify the event:

6.2.1.1 Assume the role of Emergency Director.

6.2.1.2 Obtain a copy of NMP-EP-110, Checklist 1, Classification Determination.

6.2.1.3 Obtain copies of the following from the appropriate site specific documents below.

Farley	Hatch	Vogtle
NMP-EP-110 GL-001	NMP-EP-110 GL-002	NMP-EP-110 GL-003

- Figure 1, Fission Product Barrier Matrix
- Figure 2 Emergency Classification Hot Matrix
- Figure 3 Emergency Classification Cold Matrix
- Initiating Condition Basis document

6.2.1.4 Using Checklist 1, Classification Determination, determine the highest emergency classification level based on events which are in progress, considering past events, and their impact on the current plant conditions.


6.2.1.5 The time annotated on checklist 1, line 5 constitutes the official emergency declaration time.

6.2.2 Emergency Plan Initiation

6.2.2.1 Obtain a copy of NMP-EP-110, Checklist 2, Emergency Plan Initiation and Figure 1, Timeline for Implementation of Emergency Plan from the Control Room.

6.2.2.2 Delegate initial actions specified in Checklist 2, Emergency Plan Initiation utilizing Figure 1 to delegate roles and responsibilities.

6.2.2.3 Approve Protective Action Recommendations (PARs) as appropriate using the guidance provided in NMP-EP-112.

Southern Nuclear Operating Company		
 SOUTHERN COMPANY	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 10 of 25

6.2.2.4 Maintain oversight of the event response.

6.2.2.5 The ED may operate from the Control Room or TSC at their discretion.

6.3 Periodic Review of the Classification Level

6.3.1 The ED shall periodically review current or projected plant conditions to determine if the emergency should be upgraded or terminated.

6.3.2 The TSC Manager will ensure that the TSC Staff periodically reviews plant conditions, determines if the emergency should be upgraded based on current or projected status, and makes recommendations to the ED.

6.3.3 The EOF Manager will ensure that the EOF Staff periodically reviews plant status and offsite radiological conditions, determines if the emergency should be upgraded based on current status, current field surveys or projected releases, and makes recommendations to the ED.

6.4 Terminating the Emergency Classification

NOTE


For those events which are corrected, or the threat to the level of safety of the plant has ended prior to completion of classification/notification processes, the initial notification should be completed and followed immediately with a separate termination message. In this circumstance termination does not require consultation with off-site authorities

6.4.1 SNC policy is that once an emergency classification is made, it can only be terminated. It cannot be downgraded to a lower classification. Termination criteria are contained in Emergency Plan Implementing Procedures related to 'Recovery'. At termination, on an event specific basis, the site can either enter normal operating conditions or enter a recovery condition with a recovery organization established for turnover from the ERO.

6.4.2 For a NOUE, the ED may terminate the Emergency when plant conditions have stabilized and the reason for the NOUE has been corrected. A NOUE can be terminated without coordination with offsite authorities.

6.4.3 For an ALERT, Site Area Emergency, or General Emergency, the ED may terminate the Emergency after discussions with plant management, applicable members of the plant emergency organization, the NRC, state and local officials as specified in site specific termination and recovery procedures.

6.4.4 For those events which are corrected, or the threat to the level of safety of the plant has ended prior to completion of classification and notification processes, the condition may be reported using the guidance of NUREG 1022, Rev 2, Section 3.1.1. See section 6.4.5 below.


Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 11 of 25

6.4.5 Late or Missed Classifications

Note

NUREG 1022, Rev 2, Section 3.1.1 states in part: "Occasionally, a licensee may discover that an event or condition had existed which met the emergency plan criteria but that no emergency had been declared and the basis for the emergency class no longer exists at the time of this discovery. This may be due to a rapidly concluded event or an oversight in the emergency classification made during the event or it may be determined during a post-event review. Frequently, in cases of this nature, which were discovered after the fact, licensees have declared the emergency class, immediately terminated the emergency class and then made the appropriate notifications. However, the staff does not consider actual declaration of the emergency class to be necessary in these circumstances; an ENS notification (or an ENS update if the event was previously reported but misclassified) within one hour of the discovery of the undeclared (or misclassified) event will provide an acceptable alternative. Notification of the State and local emergency response organizations should be made in accordance with the arrangements made between the licensee and offsite organizations."

- 6.4.5 IF an event has occurred that meets a threshold for declaration but no emergency has been declared at the time of discovery and the basis for the emergency class no longer exists, THEN the condition should be reported using the guidance of NUREG 1022, Rev. 2, Section 3.1.1.
- 6.4.6 Contact the site Emergency Preparedness Supervisor or designee to contact and inform the State and local emergency response agencies.
- 6.4.7 Use applicable site specific NRC reporting procedures for NRC notification.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 12 of 25

7.0 Records

- 7.1.1 All data and information generated during the emergency event will be maintained by applicable emergency response personnel in each facility. This information will be utilized to generate a written close-out report upon termination of the emergency event. The report will be prepared as described in accordance with applicable procedures.
- 7.1.2 Records generated during actual emergencies will be maintained in accordance with applicable procedures.

QA record (X)	Non-QA record (X)	Record Generated	Retention Time	R-Type
X		FNP - EMERGENCY PREPAREDNESS DRILL OR TRAINING RECORDS	36 LP+99	TR0.001
X		FNP - EMERGENCY PLAN DRILL		K02.041
X		HNP – 70 SERIES DATA PKG TRAINING & EP	24ol +2	G16.072
	X	VEGP - COMPLETED DATA SHEET/CHECKLIST		NONQ43
	X	VEGP - ENN AND ENS NOTIFICATION FORMS		NONQ43
X		EMERGENCY PLANNING – SNC ACTUAL EVENTS (NUE, ALERT, SAE, GE)	60LP	EEP.008


8.0 Commitments

Vogtle -

1985304559, 1985304561, 1985304579, 1985304580, 1985304581,
1985304588, 1985304589, 1985304591, 1985304593, 1985304607,
1985304608, 1985304614, 1985304615, 1985304616, 1985304620,
1985304624, 1985304625, 1985304664, 1985304671, 1985304693,
1985304761, 1985304810, 1986307894, 1986307896, 1986308706,
1986308709, 2002342760, 2002342880, 2002343236, 1985304590,
1985304560, 1985304555

Hatch - N/A

Farley - N/A

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 13 of 25

Checklist 1 – Classification Determination (page 1 of 1)

<p>NOTE</p> <p>Key Parameters should be allowed to stabilize to accurately represent plant conditions prior to classifying an event.</p>

Initial Actions

Completed
by _____

1. **Determine** the appropriate Initiating Condition Matrix for classification of the event based on the current operating mode:

- ☐ HOT IC/EAL Matrix Evaluation Chart (**GO** to Step **2**) to evaluate the Barriers)
- ☐ COLD IC/EAL Matrix Evaluation Chart (**GO** to Step **3**)

2. Evaluate the status of the fission product barrier using Figure 1, Fission Product Barrier Evaluation.

- a. Select the condition of each fission product barrier:

	LOSS	POTENTIAL LOSS	INTACT
Fuel Cladding Integrity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reactor Coolant System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Containment Integrity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b. Determine the highest applicable fission product barrier Initiating Condition (IC):

(select one) ☐ FG1 ☐ FS1 ☐ FA1 ☐ FU1 ☐ None

3. **Evaluate** and **determine** the highest applicable IC/EAL using the Matrix Evaluation Chart identified in step 1 **THEN GO** to step 4.

IC# _____ or ☐ None

4. **Check** the **highest** emergency classification level identified from either step 2b or 3:

<u>Classification</u>	<u>Based on IC#</u>	<u>Classification</u>	<u>Based on IC#</u>
<input type="checkbox"/> General	_____	<input type="checkbox"/> Alert	_____
<input type="checkbox"/> Site-Area	_____	<input type="checkbox"/> NOUE	_____
		<input type="checkbox"/> None	N/A

Remarks (Identify the specific EAL, as needed): _____


5. **Declare** the event by approving the Emergency Classification.

Emergency Director Date: ____/____/____ Time: _____

6. **Obtain** Meteorological Data (not required prior to event declaration):

Wind Direction (from)____ Wind Speed____ Stability Class____ Precipitation_____

7. **Initiate** Checklist 2, Emergency Plan Initiation.


Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 14 of 25

Checklist 2 – Emergency Plan Initiation (page 1 of 8)

Entry Assumptions:

- An emergency declaration has been made.
- Notification to state and local authorities will be required.

Initial Actions listed in order of priority. Take actions in parallel if resources are available. Subsequent actions should not be delayed pending the completion of prior actions. Utilize Figure 1 (Control Room) or Figure 2 (TSC) to delegate roles and responsibilities.	Completed by
1. Update personnel of assumption of the Emergency Director role, the classification of the event and direct that a log of the events be maintained.	_____
2. IF not already performed THEN direct the merging of the Plant Public Address system to ensure notification of onsite personnel. (Hatch and Farley only)	_____
3. Direct the completion of the appropriate page announcement using NMP-EP-111, Emergency Notifications, Checklist 1 as soon as possible following either: <ul style="list-style-type: none"> • Changes in Emergency Classification level <p style="text-align: center;"><u>OR</u></p> <ul style="list-style-type: none"> • Significant changes in Plant conditions 	_____
<p style="text-align: center;">NOTE</p> <p>For security based events the ERO recall system should be activated using the security event activation protocol. This will direct off-site ERO personnel to alternative facilities and on-site ERO personnel to seek protective cover. This will minimize delays in overall site response by permitting ERO assembly without exposing responders to the danger of hostile action.</p>	
4. IF not already performed (i.e., at the ALERT or higher or Emergency Director Discretion) THEN DIRECT the activation of the Emergency Response Organization. Initiation of the ERO recall system should be performed using the applicable instructions for the event. The envelope containing the activation instructions is located in the Control Room Emergency Director notebook/packet.	_____
5. Direct the communicator to establish communications and perform notifications in accordance with NMP-EP-111, Checklist 2 (Electronic Method-preferred) or Checklist 3 (Manual Method).	_____

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action	NMP-EP-110 Version 5.0 Page 15 of 25

Checklist 2 – Emergency Plan Initiation (page 2 of 8)

Initial Actions listed in order of priority. Take actions in parallel if resources are available. Subsequent actions should not be delayed pending the completion of prior actions. Utilize Figure 1 (Control Room) or Figure 2 (TSC) to delegate roles and responsibilities.			Completed by
6. IF a General Emergency has been declared THEN develop and approve Protective Action Recommendations (PARs) in accordance with NMP-EP-112. PARs must be communicated to state and local authorities within 15 minutes of the existence of conditions requiring PARs OR the need to modify previous recommendations due to changing meteorological conditions.			_____
7. Direct the completion of the Emergency Notification Form in accordance with NMP-EP-111, Emergency Notifications.			_____
8. Ensure transmission of the EN form. Receipt of Emergency Notification must be verified within 15 minutes of emergency declaration, in accordance with NMP-EP-111, Emergency Notifications, Checklist 2, Emergency Communicator Electronic Method, or checklist 3, Emergency Communicator, Manual method, as appropriate.			_____
9. Designate an individual to complete Control Room assembly and accountability in accordance with site procedures.			_____
10. Designate an individual to make NRC notifications as soon as possible but no later than one hour following the declaration of an emergency in accordance with NMP-EP-111, Checklist 4. Ensure an open line with the NRC is maintained, IF requested.			_____
11. Direct appropriate personnel to perform dose assessment per procedure.			_____
Farley FNP-0-EIP-9.1 FNP-0-EIP-9.3 FNP-0-EIP-9.5	Hatch 73EP-EIP-015 73EP-EIP-018	Vogtle 91304-C	
12. Direct ERDS activation to transmit data to the NRC within one hour of the declaration of the emergency (ALERT and higher) using the appropriate site specific procedure below:			_____
Farley NMP-EP-111-001	Hatch 73EP-EIP-063 (Att 1)	Vogtle 91111-C	

Checklist 2 – Emergency Plan Initiation (page 3 of 8)

Additional Actions – performed as conditions warrant. Take actions in parallel if resources are available.

Completed by

1. **Direct** follow-up Emergency Notification form completion as appropriate using NMP-EP-111, Attachment 1, Part 2. Follow-up notifications should be performed following a significant change in plant conditions or at least every hour.


2. **Direct** additional notifications required for personnel injury or fire as appropriate.

Farley	Hatch	Vogtle
FNP-0-EIP-11.0	34AB-X43-001-1	92005-C
FNP-0-EIP-13.0	34AB-X43-001-2	70302-C
FNP-0-EIP-8.0	73EP-EIP-013-OS	91309-C

3. **Direct** notification to the U.S. Army Explosive Ordinance Division (EOD) group as necessary.
4. **Direct** notification to the Savannah River Operations Office, for Radiological Assistance Program (RAP) support as necessary.
5. **Notify** the Duty Manager and remind them to contact the Nuclear Duty Officer.
6. **IF** there is a security event involved **THEN** ensure appropriate notifications and actions of site specific AOP are performed.


Farley	Hatch	Vogtle
FNP-0-AOP-49	34AB-Y22-004-0	18037-C
FNP-0-SP 37.0	34AB-Y22-005-0	

7. **IF** there is a security event involved **THEN** contact security for recommendations to determine hazardous areas prior to taking any actions that would move people to different areas of the plant. **DO NOT** dispatch personnel to areas of the plant until it has been determined that those areas are safe.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 18 of 25


Checklist 2 – Emergency Plan Initiation (page 5 of 8)

<p style="text-align: center;">NOTE</p> <p>If an ERO position is not filled by a LMS qualified individual the vacant position may be filled by an individual with equivalent training and experience to perform the duties of the vacant position until an LMS qualified individual arrives at the discretion of the Emergency Director.</p>															
<p>Additional Actions – performed as conditions warrant. Take actions in parallel if resources are available.</p>			Completed by												
<p>12. Authorize the filling of vacant ERO positions as needed to support activation of emergency response facilities and the response to the event.</p>															
<p>13. Evaluate Long term concerns.</p> <ul style="list-style-type: none"> • Within 8 hours, provide for full TSC and OSC reliefs. • Within 16 hours, provide for 24 hour TSC and OSC coverage. 			<p>_____</p> <p>_____</p>												
<p>14. IF an LOSP has occurred THEN evaluate the event to ensure that an adequate supply of fuel oil is available for the Diesel Generators for 7 days.</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 33%;">Farley</td> <td style="width: 33%;">Hatch</td> <td style="width: 33%;">Vogtle</td> </tr> <tr> <td>REA 00-2337</td> <td>TS 3.8.3</td> <td>19100-C</td> </tr> <tr> <td>FNP-0-SOP-42.0 Fig. 1</td> <td></td> <td>TS 3.8.3</td> </tr> <tr> <td>TS 3.8.3</td> <td></td> <td></td> </tr> </table>			Farley	Hatch	Vogtle	REA 00-2337	TS 3.8.3	19100-C	FNP-0-SOP-42.0 Fig. 1		TS 3.8.3	TS 3.8.3			<p>_____</p>
Farley	Hatch	Vogtle													
REA 00-2337	TS 3.8.3	19100-C													
FNP-0-SOP-42.0 Fig. 1		TS 3.8.3													
TS 3.8.3															

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 19 of 25


Checklist 2 – Emergency Plan Initiation (page 6 of 8)

15. Verify the Public Address (PA) system has been merged.	_____
16. IF the declared emergency involves extreme or extensive damage to the plant and/or plant components, THEN refer to the Emergency Management Guidelines (EMGs) (NMP-EP-400 series) and/or SAMGs.	_____
17. Ensure Health Physics confirms habitability of the rally points/assembly areas. <u>IF</u> unforeseen security/radiological/weather conditions preclude dismissal through the normal exit point, determine and have announced over the Public Address (PA) system an alternate location for a rally point/assembly area and a site exit route.	_____
18. Consider ordering an early dismissal of non involved personnel from the site <u>IF</u> the potential for degrading plant conditions or a threat to the safety of onsite personnel exist.	_____
19. Ensure Security initiates accountability for personnel within the Protected Area and provides a status of the release of personnel (ALERT and higher emergency classifications), as appropriate. A security related emergency may delay the ordering of assembly and accountability in order to protect plant personnel from the security threat. The decision not to order assembly and accountability will be made by the Emergency Director.	_____

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 20 of 25

Checklist 2 – Emergency Plan Initiation (page 7 of 8)

Additional Actions – performed as conditions warrant. Take actions in parallel if resources are available.		Completed by
20. During security events when there is terrorist activity on site that would prevent off site resources from accessing the site, staging areas have been established off site to assemble these resources for ready access to the site when access becomes available. Reference the EMGs (NMP-EP-400 series) for additional guidance and staging area locations.		_____
21. Activate emergency response teams to mitigate event consequences by contacting the TSC. IF the TSC is not activated, contact the Health Physics office and/or other support departments directly.		_____
<ul style="list-style-type: none"> • Send extra SOs to the OSC as conditions allow. SOs for shutdown activities will remain in the Control Room. 		_____
<ul style="list-style-type: none"> • Maintain accountability of all teams dispatched. 		_____
22. If necessary, authorize radiation exposures in excess of 10CFR20 limits.		_____
23. Monitor Area Radiation Monitor (ARM) readings and plant conditions for the location where teams have been dispatched by the control room. IF conditions change, THEN withdraw all personnel dispatched to that location.		_____
24. Authorize deviations from the Emergency Plan Implementing Procedures or Security Procedures. If these deviations result in a departure from a regulatory commitment (Emergency Plan or Security Plan) or a technical specification under the provisions of 10CFR50.54(x), then, as a minimum, a licensed SRO must approve the action in accordance with 10CFR50.54(y) and the NRC notified in accordance with 10CFR50.72 & 50.73, (one hour report/24 hour report per table 2 of 00152-C and LER).		_____


Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 21 of 25

Checklist 2 – Emergency Plan Initiation (page 8 of 8)

25. **IF** terminating the emergency, **THEN** ensure the following actions have been performed:

- **Ensure** verbal closeout to State and Local Authorities using Emergency Notification Network (ENN) or alternate communications. _____
- **Ensure** verbal closeout to NRC using ENS or alternate communications. _____
- **Ensure** all facilities and applicable offsite agencies/organizations are provided emergency termination information and the status of recovery activities. _____
- **Ensure** written closeout for NOUE declarations within 24 hours of termination to State and Local Agencies. _____
- **Ensure** written closeout for ALERT and higher declarations within 8 hours of termination to State and Local Agencies. _____

26. Diagnose plant conditions and evaluate if a Severe Accident Management Guidelines entry is required. _____

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 22 of 25


Checklist 3 – Emergency Director Transfer of Responsibilities (page 1)

1. **Review** with the ED:
 - a. Logs _____
 - b. Status boards (if applicable) _____
 - c. Summary of events _____
 - d. Plant status _____
 - e. Equipment status _____
 - f. Emergency classification _____
 - g. Status of notifications of offsite authorities _____
 - h. Protective and corrective actions _____
 - i. Radiological releases _____
 - j. Completed checklist items _____
 - k. Status of facilities activation _____
 - l. Emergency teams dispatched before activation of the ERF's. _____
 - m. Any noted deficiencies _____
 - n. Status of assembly and accountability, if initiated _____
 - o. Outstanding orders _____
 - p. Recovery plan of action, if known _____
2. **Review** facility readiness with facility managers. _____

NOTE

If an ERO position is not filled by a LMS qualified individual the vacant position may be filled by an individual with equivalent training and experience to perform the duties of the vacant position until an LMS qualified individual arrives at the discretion of the Emergency Director.

3. **Ensure** that log keeper maintains a log of ED actions and records any transfer of responsibility. _____

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Classification Determination and Initial Action
		NMP-EP-110 Version 5.0 Page 23 of 25

Checklist 3 – Emergency Director Transfer of Responsibilities (page 2)

4. **Formally assume** from the incumbent ED the position of ED, using the following message format: _____
AT _____ ON _____ I AM ASSUMING THE EMERGENCY
(Time) (Date)
DIRECTOR POSITION AND HEREBY RELIEVE YOU OF ALL EMERGENCY
DIRECTOR RESPONSIBILITIES.
Previous ED Signature _____
Relieving ED Signature _____
5. Following relief, make an announcement to the facility staff regarding the transfer of Emergency Director responsibility. _____

Figure 1 - Timeline for Implementation of Emergency Plan from the Control Room

Emergency Plan Implementation Roles, Responsibilities and Timeline

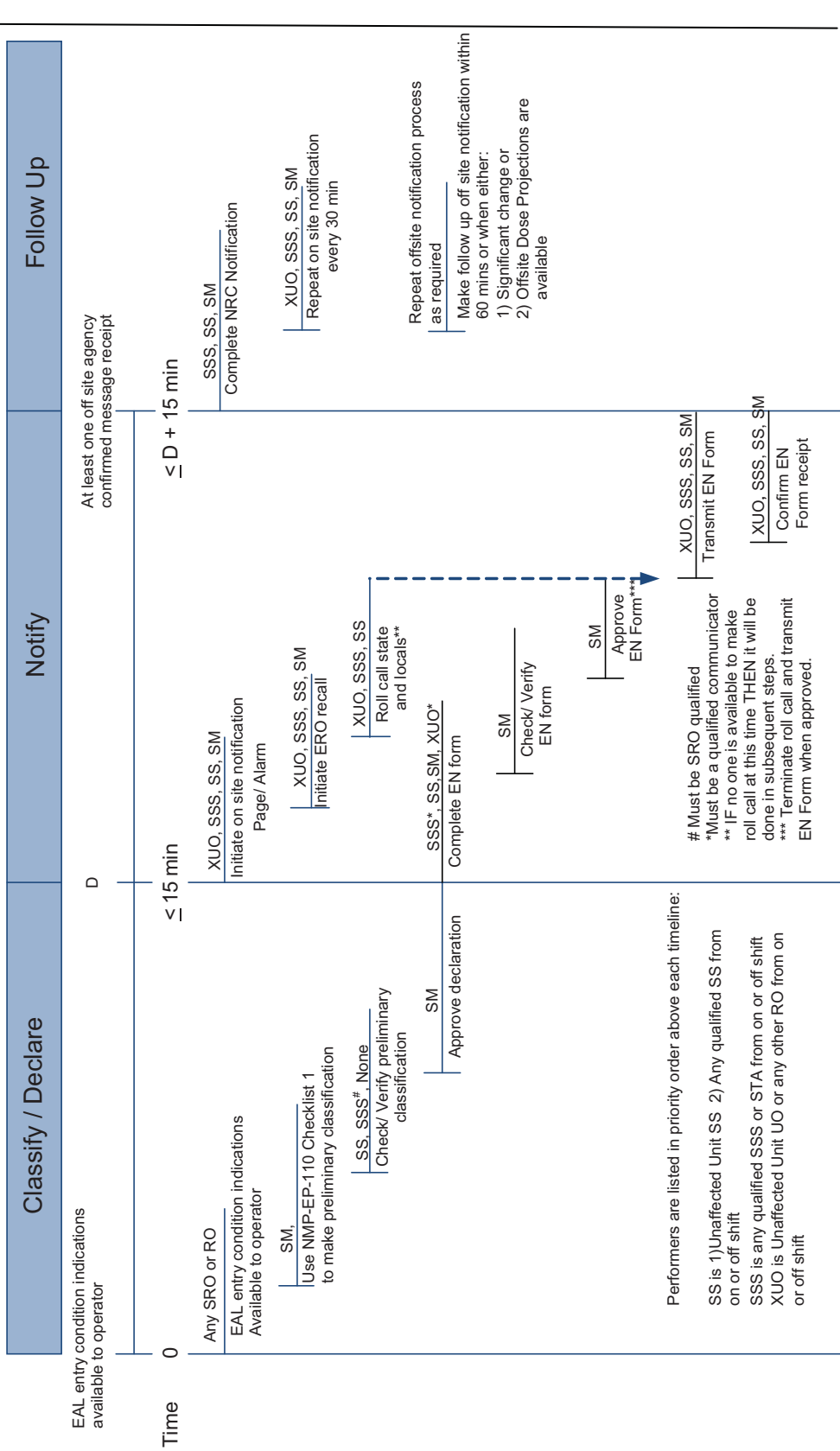


Figure 2 - Timeline for Implementation of Emergency Plan from the TSC and EOF

Emergency Plan Implementation Roles Responsibilities and Timeline

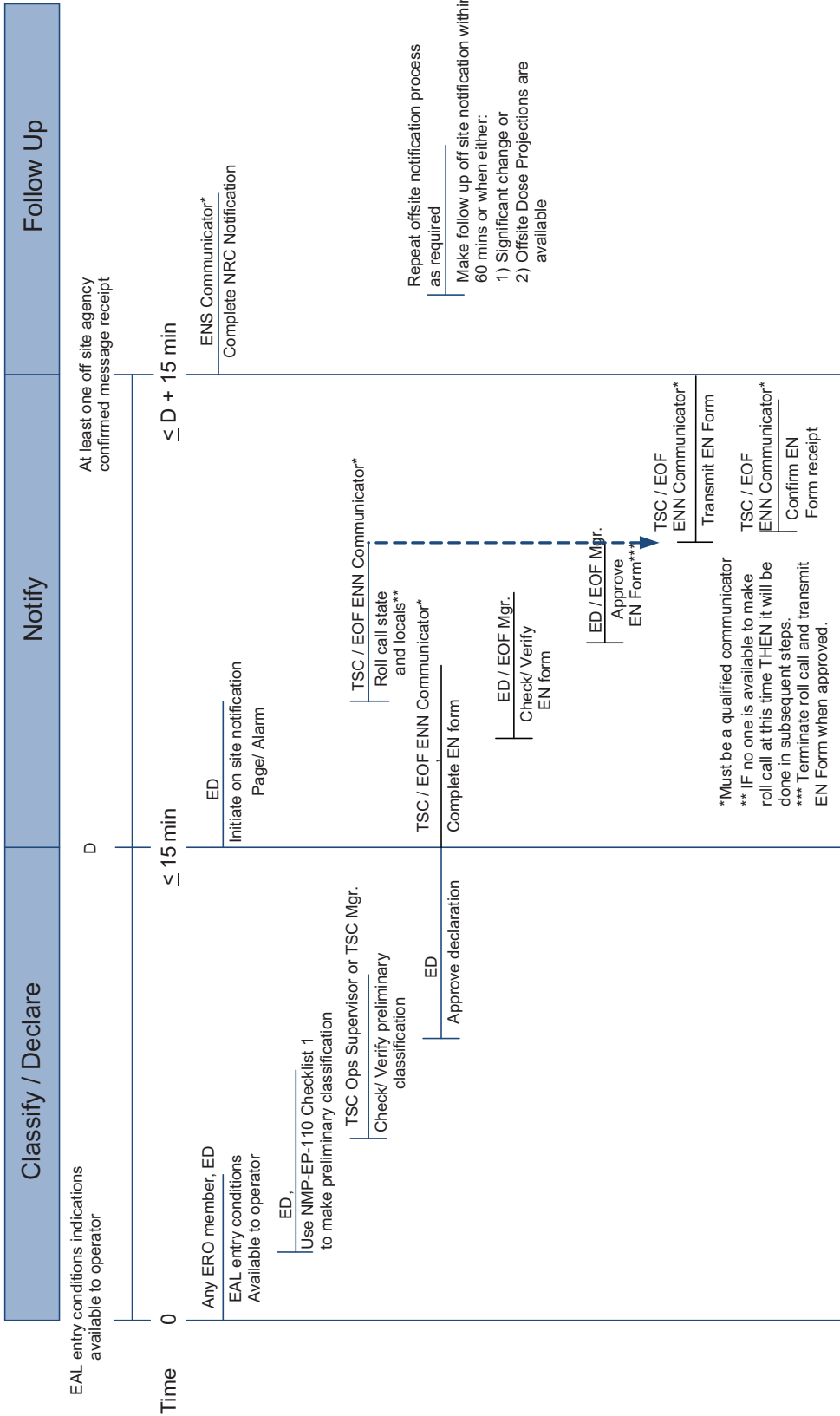


Figure 1

FARLEY NUCLEAR PLANT Figure 1 – Fission Product Barrier Evaluation		NMP-EP-110- GL01 Rev 3.0	
General Emergency	Site Area Emergency	Alert	Unusual Event
FG1 Loss of ANY Two Barriers AND Loss or Potential Loss of Third Barrier	FS1 Loss or Potential Loss of ANY Two Barriers	FA1 ANY Loss or ANY Potential Loss of EITHER Fuel Clad OR RCS	FU1 ANY Loss or ANY Potential Loss of Containment
Fuel Clad Barrier			
Loss		Potential Loss	
1. Critical Safety Function Status (p.33) Core-Cooling RED		1. Critical Safety Function Status (p.33) Core Cooling-ORANGE OR Heat Sink-RED	
2. Primary Coolant Activity Level (p. 33) Indications of RCS Coolant Activity greater than 300 µCi/gm Dose Equivalent I-131 (Figure 4 may be used to evaluate)		2. Primary Coolant Activity Level(p. 33) Not Applicable	
3. Core Exit Thermocouple Readings (p. 33) 5th Hottest CETC greater than 1200°F		3. Core Exit Thermocouple Readings (p. 33) 5th Hottest CETC greater than 700°F	
4. Reactor Vessel Water Level (p. 33) Not Applicable		4. Reactor Vessel Water Level (p. 33) RVLS Plenum LEVEL less than 0%	
5. Containment Radiation Monitoring (p. 33) Containment Radiation Monitor RE-27 A OR B greater than 80 R/hr		5. Containment Radiation Monitoring (p. 33) Not Applicable	
6. Other Indications (p. 33) Not applicable		6. Other Indications (p. 33) Not applicable	
7. Emergency Director Judgment (p. 34) Judgment by the ED that the Fuel Clad Barrier is lost. Consider conditions not addressed and inability to determine the status of the Fuel Clad Barrier		7. Emergency Director Judgment (p. 34) Judgment by the ED that the Fuel Clad Barrier is potentially lost. Consider conditions not addressed and inability to determine the status of the Fuel Clad Barrier.	
RCS Barrier			
Loss		Potential Loss	
1. Critical Safety Function Status (p. 34) Not Applicable		1. Critical Safety Function Status (p. 34) RCS Integrity-RED OR Heat Sink-RED	
2. RCS Leak Rate (p. 34) RCS subcooling less than 16°F {less than 45° F Adverse} due to an RCS leak greater than Charging / RHR capacity		2. RCS Leak Rate(p. 34) Non-isolable RCS leak (including SG tube Leakage) greater than120 GPM.	
3. SG Tube Rupture (p. 35) EEP-3.0 entered due to SG tube rupture resulting in an ECCS actuation		3. SG Tube Rupture (p. 35) Not Applicable	
4. Containment Radiation Monitoring (p. 35) CTMT Rad Monitor RE-2 greater than 100 mR/hr OR CTMT Radiation Monitor RE-7 greater than 200 mR/hr		4. Containment Radiation Monitoring (p. 35) Not Applicable	
5. Other Indications (p. 35) Not applicable		5. Other Indications (p. 35) Unexplained level rise in ANY of the following: Containment sump Reactor Coolant Drain Tank (RCDT) Waste Holdup Tank (WHT)	
6. Emergency Director Judgment (p. 35) Judgment by the ED that the RCS Barrier is lost. Consider conditions not addressed and inability to determine the status of the RCS Barrier		6. Emergency Director Judgment(p. 35) Judgment by the ED that the RCS Barrier is potentially lost. Consider conditions not addressed and inability to determine the status of the RCS Barrier.	
Containment Barrier			
Loss		Potential Loss	
1. Critical Safety Function Status (p. 36) Not Applicable		1. Critical Safety Function Status (p. 36) Containment-RED	
2. Containment Pressure (p. 36) Rapid unexplained CTMT pressure lowering following initial pressure rise OR Intersystem LOCA indicated by CTMT pressure or sump level response not consistent with a loss of primary or secondary coolant		2. Containment Pressure (p. 36) CTMT pressure greater than 54 psig and rising OR CTMT hydrogen concentration greater than 6% OR CTMT CSF - ORANGE AND Less than the following minimum operable equipment: One CTMT fan cooler AND One train of CTMT spray	
3. Core Exit Thermocouple Reading (p. 36) Not applicable		3. Core Exit Thermocouple Reading (p. 36) CORE COOLING CSF - RED OR - ORANGE for greater than 15min AND RVLS LEVEL less than 0%	
4. SG Secondary Side Release with Primary to Secondary Leakage (p. 37) RUPTURED S/G is also FAULTED outside of containment OR Primary-to-Secondary leakrate greater than 10 gpm with nonisolable steam release from affected S/G to the environment		4. SG Secondary Side Release with P-to-S Leakage (p. 37) Not applicable	
5. CNMT Isolation Valves Status After CNMT Isolation (p. 37) CTMT isolation valves OR dampers NOT closed AND downstream pathway to the environment exists after Containment Isolation		5. CNMT Isolation Valves Status After CNMT Isolation (p. 37) Not Applicable	
6. Significant Radioactive Inventory in Containment (p. 37) Not Applicable		6. Significant Radioactive Inventory in Containment (p. 37) CTMT Rad monitor RE-27 A OR B greater than 3000 R/hr	
7. Other Indications (p. 37) Pathway to the environment exists based on VALID RE-10, RE-14, RE-21, OR RE-22 Alarms		7. Other Indications (p. 37) Not applicable	
8. Emergency Director Judgment (p. 38) Judgment by the ED that the CTMT Barrier is lost. Consider conditions not addressed and inability to determine the status of the CTMT Barrier		8. Emergency Director Judgment (p. 38) Judgment by the ED that the CTMT Barrier is potentially lost. Consider conditions not addressed and inability to determine the status of the CTMT Barrier	

Figure 2 - Hot Initiating Condition Matrix

[illegible]

Procedure Number: NMR-EP-110-GL01 Rev 3.0

5, 6 and Defueled

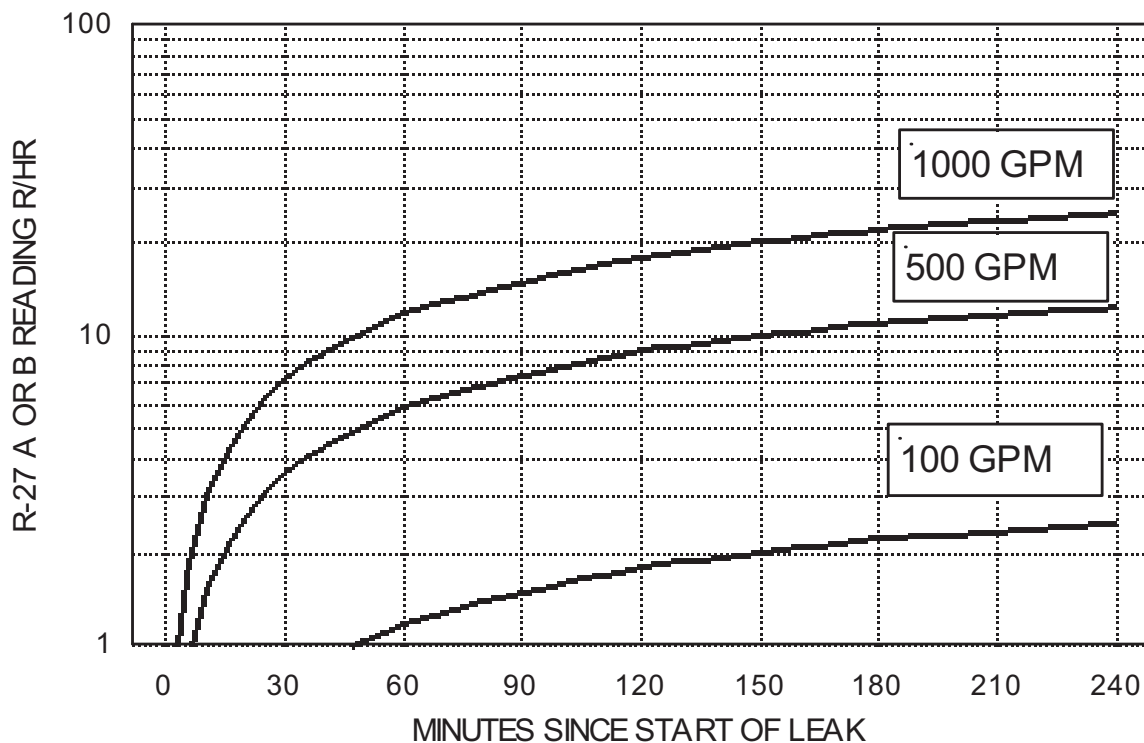
Figure 4


Figure 4 - Dose Equivalent Iodine Estimation

The below graph and table can be used to estimate if dose equivalent iodine (DEI) is above 300 microcuries per gram. When using this figure the following rules must be used:

1. The only radiation monitors that can be used to enter the graph or table are R-27A or B.
2. The leak rate is assumed to be constant for the time period specified.
3. The bottom of the scale for the R-27 monitors is 1 REM/hr.
4. Any R-27 reading greater than 1 REM/hr for a leak rate of 50 gpm or less is an indication of DEI being greater than or equal to 300 microcuries per gram.
5. Enter the graph with the R-27 reading and the length of time that the leak has been in progress. If the intersection of R-27 and time is above and to the left of the curve for the specific leak rate the DEI is likely to be greater than 300 microcuries per gram.
6. Enter the table with the number of minutes since the start of the leak and the leak rate. If the actual R-27 dose rate is above the value listed in the table the DEI is likely to be greater than 300 microcuries per gram.
7. Inform the Dose Analyst in the TSC and the EOF if dose equivalent iodine (DEI) is above 300 microcuries per gram.

	TIME (MIN)	5 MIN	10 MIN	30 MIN	60 MIN	120 MIN	180 MIN	240 MIN
LEAK	1000	1.66	3.1	7.41	11.9	18.1	22.3	25
RATE	500		1.55	3.7	5.93	9.06	11.1	12.5
[GPM]	100				1.19	1.81	2.23	2.5



Southern Nuclear Operating Company		
 SOUTHERN COMPANY	Emergency Implementing Procedure	Emergency Notifications
		NMP-EP-111 Version 7.4 Page 1 of 47

Procedure Owner: Penny Reister / Fleet Emergency Preparedness Manager / Corporate
(Print: Name / Title / Site)

Approved By: Original signed by Penny Reister / 10/16/2012
(Procedure Owner's Signature) (Approval Date)


Effective Dates: 03/07/2012 03/07/2012 03/07/2012 03/07/2012 N/A
Corporate FNP HNP VEGP 1-2 VEGP 3-4

PRB Review Not Required

This NMP is under the oversight of Fleet Emergency Preparedness.

Writer(s): C. E. Boone
J. D. Grant

PROCEDURE LEVEL OF USE CLASSIFICATION PER NMP-AP-003	
CATEGORY	SECTIONS
Continuous:	NONE
Reference:	ALL
Information:	NONE

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 2 of 47

Revision Description

Version Number	Version Description
1.0	Implements a common fleet procedure for notification of state, local and regulatory authorities in case of a declared emergency at any Southern Nuclear Operating Company facility. This procedure utilizes an electronic version of the Emergency Notification Form. The procedure incorporates the recommendations of the Training and EP Peer Team for improving the drill and exercise performance of the ERO in performing offsite emergency notifications. This procedure provides a fleet-wide standard for completion of the emergency notification form, emergency notification of State and Local agencies and federal authorities (Nuclear Regulatory Operations Center (NRCOC)).
2.0	Editorial Changes Table 1 Page 44
3.0	Implement changes resulting from 4 th Quarter tabletop drill conducted at VEGP VAI# 2010206997, Changes to checklist 2 and editorial changes.
4.0	CTE# 222871 Changes to Checklist 1 and editorial changes. Incorporated Enhancement Action from VEGP RCA 2010115719, VAI# 2011200766, VTE#75625 and VTE#215790. Implemented Section 6.1.6. in Attachment 1 Part 2. Aligned Table 1 Government Agency Notifications (VEGP) with WebEOC.
5.0	Editorial Change to Attachment 1 Page 8 of 8. CTE#213608 Incorporated recommendations to Attachment 3 Section 2 WebEOC Login and Usage Guidelines and established consistency with agency titles as listed in 91204-C.
6.0	(Editorial Change) Changed Procedure level of use classification following Challenge Board. VTE202509 (Legacy VAI2010207187) Incorporated additional guidance for Terminations. Incorporated additional release guidance determination for clarity.
7.0	Incorporated changes to Attachment 1 Part 1 – Guidance for Initial EN Form Completion. Incorporated Lessons Learned regarding electronic “Draft” copies of notifications.
7.1	(Editorial Changes) Revised Table of Contents. Revised Table 1 – Applicable Agencies for SNC Emergency Notification (page 2 of 3) to match WebEOC Software.
7.2	(Editorial Changes) FCR501093 Revised Table 4 – Meteorological Data Sources – Farley to update Telephone numbers and weather data terminology.
7.3	(Editorial Changes) Table 4 – Meteorological Data Sources – Updated Met Tower Information for new Met Tower to match Farley Nuclear Plant Emergency Plan.
7.4	(Editorial Changes)(VCR532889) Table 3 – Effluent Radiation Monitors – Removed reference for RE-005/--6 from the Plant Vogtle section of this table.



Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 3 of 47

Table of Contents

	<u>Page</u>
1.0 PURPOSE	4
2.0 APPLICABILITY	4
3.0 REFERENCES	4
4.0 DEFINITIONS	5
5.0 RESPONSIBILITIES	5
6.0 PROCEDURE.....	6
7.0 RECORDS.....	13
8.0 COMMITMENTS	13
Checklist 1, Page Announcement (page 1 of 1).....	14
Checklist 2 - Emergency Notifications - Electronic Method (page 1 of 3).....	15
Checklist 2 - Emergency Notifications - Electronic Method (page 2 of 3).....	16
Checklist 3 - Emergency Notifications - Manual Method (page 1 of 2).....	18
Checklist 3 - Emergency Notifications - Manual Method (page 2 of 2).....	19
Checklist 4 - NRC Notification (page 1 of 2).....	20
Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 1 of 8)	22
Attachment 1 Part 2 – Guidance for Follow-Up EN Form Completion (page 1 of 1)	30
Attachment 2 – NRC Event Notification Worksheet (page 1 of 2).....	31
Attachment 2 – NRC Event Notification Worksheet (page 2 of 2).....	32
Attachment 3 - WebEOC Login and Usage Guidelines (page 1 of 2).....	33
Attachment 3 - WebEOC Login and Usage Guidelines (page 2 of 2).....	34
Figure 1 – Emergency Notification Form (page 1 of 2)	35
Figure 1 – Emergency Notification Form (page 2 of 2)	36
Figure 2 - NRC Notification Form (page 1 of 2).....	37
Figure 3 – Flowchart for Initial Emergency Notifications	39
Figure 4 – Flowchart for Follow-Up Emergency Notifications	40
Figure 5 – Emergency Notification Receipt Confirmation	41
Table 1 - Applicable Agencies for SNC Emergency Notification (page 1 of 3)	42
Table 1 - Applicable Agencies for SNC Emergency Notification (page 2 of 3)	43
Table 1 - Applicable Agencies for SNC Emergency Notification (page 3 of 3)	44
** Denotes agency is a 24 Hour Warning Point Table 2 - Accident Types	44
Table 2 - Accident Types	45
Table 3 – Effluent Radiation Monitors	46
Table 4 – Meteorological Data Sources.....	47

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 4 of 47

1.0 **PURPOSE**

Emergency notifications are provided to offsite authorities for all declared emergencies. Protective Action Recommendations (PARs) are communicated as a part of this process, as appropriate. This procedure provides guidance for the performance of these notifications utilizing either an electronic or manual version of the Emergency Notification Form. Guidance is provided for the performance of initial and follow-up notifications to state, and local emergency response organizations, including upgrades of emergency classifications, protective action recommendations and termination of emergency conditions. Guidance is also provided for notification of federal authorities (Nuclear Regulatory Commission Operation Center (NRCOC)) of an emergency condition.


2.0 **APPLICABILITY**

This procedure is applicable to all SNC sites and shall be used to perform required emergency notifications following the declaration of any emergency. These notifications are performed to fulfill regulatory requirements for notification to off site and regulatory authorities in accordance with site specific emergency plans.

Emergency Classifications are performed to place emergency events in the proper perspective to assist offsite authorities in determining appropriate actions to avoid or reduce the radiological exposure that may be incurred by the public from an accident condition. This procedure provides a method for notification of both emergency conditions and protective action recommendations and is performed, as required, during drills, exercises, and declared emergencies. Figure1, Emergency Notification Form, is applicable across the fleet and shall be utilized when emergency notifications are required.

3.0 **REFERENCES**

- 3.1 **NUREG-0654, FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"**
- 3.2 **MOU with State and Local agencies regarding emergency notifications**
- 3.3 **FNP Emergency Plan**
- 3.4 **HNP Emergency Plan**
- 3.5 **VEGP Emergency Plan**
- 3.6 **NEI 99-01, Rev. 4, Development of Emergency Action Levels**
- 3.7 **WebEOC Users Manual**
- 3.8 **Title 10, Code of Federal Regulations, Part 50.72**
- 3.9 **NMP-EP-112, "Protective Action Recommendations"**
- 3.10 **NL-05-1353, Emergency Preparedness and Response Actions for Security-Based Events**

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 5 of 47


3.11 NRC Regulatory Issue Summary (RIS) 2007-02, Clarification Of NRC Guidance For Emergency Notifications During Quickly Changing Events

4.0 DEFINITIONS

- 4.1 **WebEOC** – An electronic system utilized to provide data transmission of specific plant parameters, emergency status, and other information in support of the emergency response. Offsite emergency notifications, including notification of protective action recommendations, may be performed utilizing this system.
- 4.2 **Protective Action Recommendations (PARs)** – shelter, evacuation, monitor, and/or KI recommendations made by SNC to appropriate state agencies. PARs are made by SNC personnel based on NMP-EP-112 whenever a General Emergency is declared.
- 4.3 **Total Effective Dose Equivalent (TEDE)** - The sum of the deep dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures).
- 4.4 **Committed Dose Equivalent (CDE)** - The dose equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.
- 4.5 **Radiological Release** - a radioactive release to the environment, detected by effluent monitors or environmental monitoring, above normal levels that is attributable to a declared event. Normal levels and the degree to which they are exceeded are specified in site specific dose assessment and/or ODCM procedures.

5.0 RESPONSIBILITIES

- 5.1 The Emergency Director (ED) has the non-delegable duty for approving initial notifications and/or PARs to offsite agencies. These approvals may be verbal.
- 5.2 Approved PARs may be communicated to applicable offsite authorities by the Control Room, Technical Support Center (TSC) or Emergency Operations Facility (EOF) staffs as directed by the ED.
- 5.3 When operational, the TSC will normally assume responsibility for offsite notifications until relieved of that responsibility by the EOF.
- 5.4 When operational, the TSC has responsibility for developing and communicating offsite PARs until relieved of that responsibility by the EOF.
- 5.5 The designated communicator is responsible for completing the emergency notification form. Data for various sections of the form may be obtained from working groups within the Emergency Response Organization (ERO). This data may be entered by either the communicator or the specific group. In the event that multiple individuals are involved in physically completing the form, the designated communicator is responsible for ensuring the completeness and accuracy of the form prior to presenting the form for final approval by the ED.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 6 of 47

6.0 PROCEDURE

6.1 Precautions and Limitations

- 6.1.1 Initial notifications of applicable State and Local Agencies shall be accomplished as soon as practicable and within 15 minutes of the declaration of an emergency, an upgrade to a higher emergency classification level, or the approval of protective actions recommendations.
- 6.1.2 Initial notification of the NRC shall be completed as soon as possible after notifications to the state and county agencies and within an hour of the declaration of an emergency. Follow-up notifications of the NRC shall be made promptly after any further degradation in the plant conditions, any change from one emergency class to another, or for the termination of an emergency. NRC notifications are typically performed utilizing the Federal Telephone System (FTS). The Emergency Notification System (ENS) line is normally utilized. An open line is maintained for the duration of the event at the request of the NRC communicator receiving the initial notification.
- 6.1.3 For security based emergencies, notifications to the NRC should be performed within 15 minutes of discovery of an imminent threat or attack against the plant to ensure proper mobilization of federal resources.


CAUTION

AN INITIAL NOTIFICATION OF AN UPGRADE IN EMERGENCY CLASSIFICATION SHOULD TAKE PRECEDENCE OVER A FOLLOW-UP MESSAGE OF A LOWER RANKING EMERGENCY. (I.E., AN INITIAL SITE AREA EMERGENCY NOTIFICATION TAKES PRECEDENCE OVER AN ALERT FOLLOW-UP NOTIFICATION.)

NOTE

The following guidance shall be used for making emergency notifications during rapidly changing events in which the emergency classification changes before the lesser notification is made to the offsite response organizations (OROs) and the NRC. This information is consistent with RIS 2007-02, Clarification Of NRC Guidance For Emergency Notifications During Quickly Changing Events

- 6.1.4 If the plant condition degrades and a higher emergency classification is declared before the notifications are confirmed for the lesser emergency declaration, then a notification reflecting the higher emergency classification should be made. This notification should be made within 15 minutes of the lesser emergency declaration. This should be performed IF the notification can be made within 15 minutes of the lesser (first) classification.


Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 7 of 47

- 6.1.5 If the notification of a higher emergency classification cannot be made within 15 minutes of the lesser emergency classification then, the notification of the lesser emergency classification should be completed within 15 minutes of the declaration of the lesser event. The notification for the higher emergency classification should be prepared and an additional notification should be performed within 15 minutes of the higher emergency declaration.

NOTE

Electronic notification provides a mechanism to perform emergency notification near live-time. Electronic notification utilizes standardized data as delineated in Figure 1, Emergency Notification Form. This data is supplemented with additional data provided in WebEOC to enhance the notification process. However, electronic notification and/or communication via WebEOC are not required to satisfy the regulatory requirement to notify offsite agencies of emergency conditions. To expedite availability of WebEOC in an emergency, the crew members responsible for completing Figure 1 and making electronic notifications should login to WebEOC as soon as possible using Attachment 3 and remain logged-in.


- 6.1.6 Follow-up Emergency Messages, using the Emergency Notification Form, Figure 1 should be completed and transmitted to state, local and federal authorities as designated in Table 1, during an Alert or higher classification (The expectation for follow-up notification is that these notifications will be performed when there is a significant change in plant conditions, or at least every hour).
- 6.1.7 PAR changes should be communicated to appropriate agencies as soon as possible following PAR development and approval. Notification of PARs to applicable agencies is required within 15 minutes following PAR development and approval.
- 6.1.8 If this procedure is initiated as part of an emergency preparedness drill or exercise, all verbal communications (radio, telephone, etc.) shall be preceded and followed by the statement: "This is a drill". All electronic notifications shall be clearly marked indicating that the information is drill related.
- 6.1.9 All GENERAL Emergency notifications will contain PARs. PARs are only applicable for GENERAL Emergency conditions. Guidance for the development of PARs is provided in NMP-EP-112, Protective Action Recommendations.
- 6.1.10 Dose assessment information and emergency release status are developed utilizing site specific procedures. Results from dose assessment calculations affecting PARs or reflecting a change in the status of radiological releases should be communicated as soon as practicable following the approval of the dose assessment results by the dose assessment supervisor. The expectation is that this information will be communicated to the ED as soon as possible following determination by Dose Assessment Supervision that radiological conditions have changed significantly to warrant notification of offsite agencies.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111 Version 7.4 Page 8 of 47

- 6.1.11 If the current wind direction, which is used for PAR development, is different from the MIDAS dose projection wind direction, request another dose projection with the direction used for PAR development to place on the follow-up notification form.
- 6.1.12 Dose projection information is not normally included on INITIAL notifications. A follow-up message containing pertinent radiological release information (including lines 14 through 16) should be started promptly after an initial notification that indicates a release is occurring or has occurred.
- 6.1.13 Transfer of notification responsibility may occur at anytime at the discretion of the Emergency Director.

6.2 USE OF THIS PROCEDURE

- 6.2.1 On site notification should be made as soon as possible to protect plant workers. The applicable alarm should be sounded and the appropriate message should be read over the public address system.
- 6.2.2 The announcement or alarm for each emergency classification is as follows:
 - NOTIFICATION OF UNUSUAL EVENT – announcement
 - ALERT – warble tone and announcement
 - SITE AREA EMERGENCY – warble tone and announcement
 - GENERAL EMERGENCY – warble tone and announcement
- 6.2.3 Checklist 1 – The ED should obtain the assistance of the designated communicator as soon as practicable.
 - 6.2.3.1 Checklist 1 – Page Announcements – should be performed as soon as practicable by the designated communicator as directed by the ED.
- 6.2.4 Checklist 2 - The ED should obtain the assistance of an ENN Communicator as soon as practicable.
 - 6.2.4.1 Checklist 2 - Emergency Notifications - Electronic Method should be utilized by the Communicator as directed by the ED.
- 6.2.5 The ED should initiate completion of the EN Form. Use of the electronic method is preferred. WebEOC login instructions are given in Attachment 3 - WebEOC Login and Usage Guidelines.
- 6.2.6 Figure 1 – Emergency Notification Form provides an example EN Form. A copy of this form may be utilized when performing manual emergency notifications. This form is completed when performing either initial or follow-up emergency notifications, as appropriate.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications NMP-EP-111 Version 7.4 Page 9 of 47

NOTES

1. Termination notifications should be treated as initial notifications.
2. Termination of the emergency may only be performed by the Emergency Director in consultation with off site authorities.
3. Notification of the termination of the event should be issued by the facility assigned responsibility for off site notifications at the time of termination. However, the timing of the notification of termination is not subject to the time constraints of other notifications (i.e., changes in classification, PARS, etc).
4. The 15 minute notification criteria do not apply to emergency termination.

6.2.6.1 INITIAL Emergency Notifications

6.2.6.1.1 Declared Emergency

6.2.6.1.1.1. Figure 3, Flowchart for Initial Emergency Notifications, provides guidance for the performance of INITIAL emergency notification.

6.2.6.1.1.2. Attachment 1 Part 1, Guidance for Initial EN Form Completion, provides guidance for any line item on the EN Form required to be completed for Initial Emergency Notification.

6.2.6.1.2 Terminations


6.2.6.1.2.1. Figure 3, Flowchart for Initial Emergency Notifications, provides guidance for the performance of INITIAL emergency notification.

6.2.6.1.2.2. Attachment 1 Part 1, Guidance for Initial EN Form Completion, provides guidance for any line item on the EN Form required to be completed for Initial Emergency Notification.

6.2.6.2 FOLLOW-UP Emergency Notifications

6.2.6.2.1. Figure 4, Flowchart for Follow-up Emergency Notifications, provides guidance for the performance of FOLLOW-UP emergency notifications.

6.2.6.3. Attachment 1 Part 2, Guidance for Follow-up EN Form Completion, provides guidance for line items required to be completed for Follow-up EN Forms. Detailed guidance for any line item on the EN Form is provided in Attachment 1 Part 1.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 10 of 47

6.2.7 Receipt Verification of Emergency Notification

6.2.7.1 Figure 5, Emergency Notification Receipt Confirmation provides instructions for the performance of emergency notification receipt verification. Receipt verification is required for ALL emergency notifications.

6.2.8 Checklist 4, NRC Notification. The ED should designate an ENS Communicator and direct initiation of Checklist 4.

6.2.8.1 The ENS Communicator should complete Figure 2 - NRC Notification Form, and transmit to the NRC in accordance with the prescribed checklist.


6.3 EMERGENCY NOTIFICATION NETWORK (ENN)

NOTE

Notification responsibility may be transferred to the TSC or EOF at the discretion of the ED. Notification responsibility will normally be transferred from the CR to the TSC and then the EOF.

6.3.1 Control Room personnel will initially be responsible for emergency notification activities. Control Room personnel will complete the INITIAL emergency notification. It is anticipated that the first FOLLOW-UP notification may also be performed from the Control Room prior to transferring the responsibility to the TSC.

6.3.2 When the TSC is activated AND ready to assume the emergency notification function, there will be mutual approval of the transfer between the Emergency Director (Control Room Shift Manager (On-Shift ED)) and the relieving ED. This transfer should be completed as rapidly as possible while ensuring a smoothly coordinated transfer of this critical function. The relieving ED will ensure that the TSC ENN communicator is aware of the time of the previous notification and that the TSC is responsible for any upgrades in classification.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 11 of 47

NOTE

The timing for Follow-up notifications should include considerations of the time elapsed since the last notification. However, follow-up notifications should NOT be time driven. The timing of follow-up notifications should be driven by the need to communicate significant events. Events which may impact offsite agencies and resources should be communicated as soon as practicable to maximize the response time of the offsite agencies. It is expected that follow-up notifications will be performed when there is a significant change in plant conditions, or at least every hour.

- 6.3.3 When notification responsibility is transferred to the TSC, the TSC will complete the INITIAL emergency notification for ALL emergency classification upgrades and will complete the FOLLOW-UP actions for all subsequent notifications until notification responsibility is transferred to the EOF or back to the Control Room.
- 6.3.4 When the EOF is activated and ready to assume the emergency notification function, there will be mutual approval of the transfer between the ED and the EOF Manager. This transfer should be completed as rapidly as possible while ensuring a smoothly coordinated transfer of this critical function.


NOTE

The transfer of notification responsibility to the EOF may occur prior to any notifications being made from the TSC. The EOF Manager will ensure that the EOF ENN communicator is aware of the time of the previous notification and that the TSC is responsible for communicating any upgrades in classification to the EOF to ensure timely notifications of offsite agencies.

CAUTION

INITIAL EMERGENCY NOTIFICATIONS AND/OR THE ISSUANCE OF PROTECTIVE ACTION RECOMMENDATIONS (PARS) PERFORMED FROM THE EOF MUST BE APPROVED BY THE ED. THIS APPROVAL MAY BE VERBAL.

- 6.3.5 Once notification responsibilities are transferred to the EOF, the responsibility for offsite notification will remain with the EOF unless changing conditions result in an emergency classification upgrade, the capability to perform notifications from the EOF is lost or the EOF is otherwise incapable of performing the notification.
- 6.3.6 INITIAL emergency notification for any subsequent emergency classification upgrades will be performed by the TSC with the TSC also being responsible for the first follow-up notification. Subsequent follow-up notifications will be performed by the EOF following transfer of the responsibility from either the TSC or Control Room.


Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 12 of 47

- 6.3.7 Corrections to emergency notification forms should be prepared and transmitted as follow-up notifications as soon as possible following the discovery of the error. The emergency notification message should clearly indicate that the information is corrected information. The REMARKS section of the notification form should reference the message number for the message containing the error.

6.4 EMERGENCY NOTIFICATION SYSTEM (ENS) – NRC NOTIFICATION

- 6.4.1 The Control Room will initially be responsible for ENS activities. It is expected that the Control Room will complete the INITIAL ENS notification and maintain an open, continuous communications channel with the NRC Operations Center (NRCOC) on the ENS, upon request by the NRC until this responsibility is transferred to the TSC.
- 6.4.1.1 Figure 2, NRC Notification Form, will be completed when performing emergency notifications to the NRC. Notifications will be performed as soon as practicable and within 1 hour of emergency declaration.
- 6.4.1.2 Attachment 2, NRC Event Notification Worksheet, provides guidance for completion of Figure 2, NRC Notification Form.
- 6.4.2 When the TSC is activated and ready to assume the ENS functions, there will be mutual approval of the transfer between the Control Room Shift Manager (On-Shift ED) and the relieving ED. This transfer should be completed as rapidly as possible while ensuring a smoothly coordinated transfer of this critical function. The relieving ED will ensure that the TSC ENS communicator maintains an open, continuous communications channel with the NRCOC on the ENS, if requested by the NRC.
- 6.4.3 The ENS functions DO NOT normally transfer to the EOF. The EOF has an ENS communicator position that coordinates with the TSC ENS communicator to maintain a continuous open communication line with the NRC. The role of the EOF ENS Communicator is to assist in communications with the NRCOC relevant to activities performed from the EOF (i.e., offsite interface, public information, PAR development, Dose assessment activities, etc.).

6.5 COMPLETE CHECKLIST(S) 1, 2, 3, OR 4 OF THIS PROCEDURE AS APPROPRIATE.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111 Version 7.4 Page 13 of 47

7.0 RECORDS

QA record (X)	Non-QA record (X)	Record Generated	Retention Time	R-Type
X		License Event Report		GG9.007
X		Emergency Planning – SNC Actual Events (NUE, Alert, SAE, GE)		EEP008
X		ENP – Emergency Plan Implementing Procedure		H06.017
X		HNP – 70 SERIES DATA PKG TRAINING & EP	2	G16.072
	X	VEGP – ENN AND ENS NOTIFICATION FORMS		NONQ43

8.0 COMMITMENTS

- Farley – None
- Hatch - None
- VEGP
Attachment 1 part 1, 5 [1985304591, 1985304593, 1985304619, 1985034692, 1985304693]
Section 5.1 [1985304607, 1985304615, 1985304831, 1985304826]
Section 6.1.1 [1986308707, 1985304616, 1985304624, 1985304830, 1986308708, 1985304588, 1985304589, 1985304593, 1985304625, 1985304829]
Section 6.1.2 [1985304591, 1985304593]
Section 6.1.5 [1985304620]
Section 6.2.2.1 [1985304608]
Section 6.2.2.2 [2002342760]
Section 6.2.2.3 [2002343236]
Section 6.2.3 [1985304606, 1985304832]
Att 1 item 9 [1985304590, 1985304594]
Att 1 item 16 [1985304594, 1985304723]

Checklist 1 - Page Announcement (page 1 of 1)

NOTE

The completion of an initial plant page announcement to activate the ERO is expected to be completed within 5 minutes of the declaration of an Alert or higher. All subsequent announcements should be completed as soon as practicable.

1. Obtain copies of the appropriate site specific document


Farley	Hatch	Vogtle
NMP-EP-111-001	NMP-EP-111-002	NMP-EP-111-003

2. Select the appropriate page announcement script from the site specific document _____
3. Sound the emergency tone for approximately ten (10) seconds (Alert or higher) _____
4. Make an announcement with the plant page public address system: _____
5. REPEAT the above tone and announcement _____
6. For an Alert or higher, perform announcement(s) on the following frequencies:
 - a. Repeat the announcement approximately every thirty (30) minutes during the first (2) hours of the declared emergency and track time of announcement below: _____

Initial Page Announcement	Time: _____
30 minute repeat (approx.)	Time: _____
60 minute repeat (approx.)	Time: _____
90 minute repeat (approx.)	Time: _____
120 minute repeat (approx.)	Time: _____

- b. After the first two (2) hours, repeat the announcement as directed by the ED, SM, or SS and track time of announcement below: _____

Time: _____
Time: _____
Time: _____
Time: _____

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications NMP-EP-111 Version 7.4 Page 15 of 47

Checklist 2 - Emergency Notifications - Electronic Method (page 1 of 3)

NOTES

- 1) To expedite availability of WebEOC in an emergency, the crew members responsible for completing Figure 1 and making electronic notifications should login to WebEOC as soon as possible utilizing Attachment 3 and remain logged-in.
- 2) The ED should be notified if during the notification process ALL stations fail to respond to the roll call OR a back-up communication system for any agency is being used.
- 3) The EN Form should be transmitted as soon as it is APPROVED by the ED. The EN form is transmitted when OK is selected following selection of the APPROVAL button. Do not delay EN form preparation or transmittal to complete Roll Call.

CAUTION

ENN COMMUNICATORS SHOULD NOT ACCESS "DRAFT" COPIES OF ELECTRONIC NOTIFICATIONS UNLESS THEY ARE CURRENTLY CHARGED WITH NOTIFICATION RESPONSIBILITIES. ENN COMMUNICATORS SHOULD COORDINATE CLOSELY WITH ENN COMMUNICATORS IN ALL ACTIVE ERF'S TO ENSURE THAT ONLY THE COMMUNICATOR ASSIGNED RESPONSIBILITY FOR ENN NOTIFICATIONS ACCESS "DRAFT" COPIES OF FORMS. THE EXCEPTIONS WOULD BE WHEN ONE FACILITY HAS BEGUN A NOTIFICATION AND RESPONSIBILITIES ARE TRANSFERRED TO ANOTHER FACILITY. COORDINATION BETWEEN THE COMMUNICATORS IS REQUIRED TO ENSURE THAT A COORDINATED TRANSFER OF RESPONSIBILITY FOR COMMUNICATIONS OCCURS.

Upon receiving direction to prepare/transmit an Emergency Declaration Message:

1. **Obtain** a copy of the appropriate site specific procedure.


Farley	Hatch	Vogtle
NMP-EP-111-001	NMP-EP-111-002	NMP-EP-111-003

2. Select the appropriate instruction from the site specific document to operate the equipment for contacting the warning points or EOCs.
3. Obtain a copy of Table 1 Applicable Agencies.
4. Establish contact on the ENN by performing a roll call of the applicable agencies. Each agency should be contacted. Check off each agency on Table 1 as acknowledgement is obtained.
5. **Roll call:**
 - a. **Read** the following script:

“[Select one] THIS IS A [☐ DRILL ☐ ACTUAL EMERGENCY] MESSAGE.

THIS IS [YOUR NAME] _____ AT

[Select one] [☐ Plant FARLEY ☐ Plant HATCH ☐ Plant VOGTLE].

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 16 of 47

Checklist 2 - Emergency Notifications - Electronic Method (page 2 of 3)

AN EMERGENCY HAS BEEN DECLARED. PLEASE ENSURE YOU ARE LOGGED INTO WEBEOC AND STANDBY TO CONFIRM RECEIPT OF AN EMERGENCY MESSAGE.

“[**Select one**] THIS IS A [☐ DRILL ☐ ACTUAL EMERGENCY] MESSAGE.”

- b. **Call** each facility by name (see Table 1) and confirm they are in standby.
- c. **IF** time allows **THEN** agencies not contacted by the ENN should be contacted using the phone numbers provided in Table 1.
6. **IF** not already completed **THEN** complete the electronic notification form in accordance with instructions provided in Figure 3 - Flowchart for Initial Emergency Notifications (preferred) or Figure 4 - Flowchart for Follow-Up Notifications (preferred), as appropriate. Guidance for form completion is provided in Attachment 1, Part 1 - Guidance for Initial EN Form completion and Attachment 1, Part 2 – Guidance for Follow-up EN Form Completion.
7. **WHEN** the Emergency Notification form has been electronically approved and transmitted, **THEN** confirm receipt of the notification using Figure 5 – Emergency Notification Receipt Confirmation or the remainder of this checklist as guidance.
8. **IF** ROLL CALL of the applicable Table 1 agencies is not complete **THEN** terminate roll call.
9. (Vogtle Only) **IF** any agency requires message authentication **THEN** authenticate the message as follows:
 - a. **Enter** the code provided by the requesting agency.
 - b. **Select** GET AUTHENTICATION CODE.
 - c. **Provide** the authentication code supplied by the system to the agency requiring authentication verbally over the ENN.
10. **Contact** each agency by name (see Table 1) and use the following script to ask each agency to verify receipt of the emergency message:


“[**Select one**] THIS IS A [☐ DRILL ☐ ACTUAL EMERGENCY] MESSAGE.

THIS IS [YOUR NAME] _____ AT

[**Select one**] [☐ Plant FARLEY ☐ Plant HATCH ☐ Plant VOGTLE].

“EMERGENCY NOTIFICATION, MESSAGE NUMBER [MESSAGE NUMBER] ____ HAS BEEN TRANSMITTED TO YOU ELECTRONICALLY [either WebEOC or Fax]. DID YOU RECEIVE THE MESSAGE?”

11. **Record** the TIME (HH:MM) and DATE (mm/dd/yy) when the first agency acknowledges electronic notification on the message confirmation portion of the EN Form (either electronic or manual). This time is the notification time.


Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 17 of 47

Checklist 2 - Emergency Notifications - Electronic Method (page 3 of 3)

12. **Contact** each agency by name (see Table 1) for the applicable site AND **record** the name of each agency person confirming receipt and confirming time on Table 1 and on the message confirmation portion of the EN Form (either electronic or manual).
13. Select **SAVE**.
14. **After confirming receipt by other agencies, IF** an agency does not receive the EN form electronically, **THEN read** lines 1 through line 13 and line 17 for initial notifications (or lines 1 through 17 for a follow-up notification) for the agency not in receipt.
15. Continue by asking: "DO YOU HAVE ANY QUESTIONS CONCERNING THE NOTIFICATION MESSAGE?"
Respond to questions as presented. If necessary, continue discussions with individual agencies off-line to prevent delays in future notifications and to limit voice traffic on the ENN that may be distracting to other agencies.
16. **IF** requested by an agency to read any portion of the EN Form, **THEN read** the requested portions of the EN Form.
17. After all questions have been resolved print the completed EN form.

Continuing Action

18. Continue by asking: "DO YOU HAVE ANY QUESTIONS CONCERNING THE NOTIFICATION MESSAGE?"
Respond to questions as presented. If necessary, continue discussions with individual agencies off-line to prevent delays in future notifications and to limit voice traffic on the ENN that may be distracting to other agencies.
19. If an individual agency cannot be reached via the ENN, use an alternate method (e.g., commercial telephone line and the number provided in the emergency response telephone directory) to contact the individual station directly.
20. If multiple agencies cannot be reached via the ENN, then go to the applicable sites "Back-up Communication Systems" (Table 1) for offsite notifications.
21. For ALERT and higher emergency classification, make follow-up notifications at least every hour or when conditions warrant. When requested, notify alternate state and county notification locations.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 18 of 47

Checklist 3 - Emergency Notifications - Manual Method (page 1 of 2)

Transmission of Emergency Notification Message - Manual Method

NOTES

- 1) For notification time purposes (either initial or follow-up notifications) notification time is the time which line 4 of the notification form (Figure 1) is read.
- 2) The ED should be notified if during the notification process ALL stations fail to respond to the roll call OR a back-up communication system for any agency is being used.
- 3) The EN Form should be transmitted as soon as it is APPROVED. Do not delay transmittal to complete a Roll Call. Once the EN Form is transmitted, confirm receipt.

Upon receiving direction to prepare to transmit an Emergency Notification Message

1. **Obtain** a copy of Table 1 then establish contact on the ENN by performing a roll call of the applicable agencies. Check off each agency on Table 1 as acknowledgement is obtained.
2. **Roll call:**
 - a. Read the following script:

[Select one] THIS IS A [☐ DRILL ☐ ACTUAL EMERGENCY] MESSAGE


THIS IS [YOUR NAME] _____ AT

[Select one] ☐ Plant FARLEY ☐ Plant HATCH ☐ Plant VOGTLE

AN EMERGENCY HAS BEEN DECLARED FOR EVENTS AFFECTING

[Select one] [☐ Unit 1 ☐ Unit 2 ☐ THE SITE]

PLEASE OBTAIN A BLANK EMERGENCY NOTIFICATION FORM AND STANDBY TO RECEIVE AN EMERGENCY MESSAGE"
 - b. Call each facility by name (see Table 1) and confirm they are standing-by to copy an emergency message.
3. **If** not already completed, **complete** the emergency notification form (Figure 1). Guidance for form completion is provided in Attachment 1, Part 1 - Guidance for Initial EN Form completion and Attachment 1, Part 2 – Guidance for Follow-up EN Form Completion.
4. **Obtain** approval to transmit the emergency notification.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 19 of 47

Checklist 3 - Emergency Notifications - Manual Method (page 2 of 2)

Transmission of Emergency Notification Message - Manual Method

5. **Transmit** the EN Form data verbally utilizing the ENN. Read the notification form (line by line) allowing ample time for the recipient to transfer the verbal data onto a blank form. Record the NOTIFICATION time (HH:MM) on the message confirmation portion of the EN Form when line 4 of the EN Form is read.

6. **Continue** by asking:

“DO YOU HAVE ANY QUESTIONS CONCERNING THE EMERGENCY NOTIFICATION MESSAGE?”

Respond to questions as presented. If necessary, continue discussions with individual agencies off-line to prevent delays in future notifications and to limit voice traffic on the ENN that may be distracting to other agencies.

7. Following transmission of the emergency notification, **confirm** receipt of the emergency notification.
 - a. Call each facility by name (see Table 1).
 - b. Complete the confirmation portion of the Emergency Notification Form (Figure 1, page 2) by recording the name of the person contacted and the time that message receipt was confirmed.


Continuing Actions

1. Continue by asking:

“DO YOU HAVE ANY QUESTIONS CONCERNING THE EMERGENCY NOTIFICATION MESSAGE?”

Respond to questions as presented. If necessary, continue discussions with individual agencies off-line to prevent delays in future notifications and to limit voice traffic on the ENN that may be distracting to other agencies.

2. If an individual station cannot be reached via the ENN, use the emergency response telephone directory and a commercial telephone line to contact the individual station directly.
3. If multiple agencies cannot be reached via the ENN, then utilize the phone numbers listed in Table 1 , “Back-up Communication Systems” to contact individual stations directly, as appropriate.
4. For ALERT and higher emergency classification, make follow-up notifications at least every hour or when conditions warrant. When requested, notify alternate state and county notification locations.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 20 of 47

Checklist 4 - NRC Notification (page 1 of 2)

NOTES	
1)	Assign operations personnel (or TSC personnel if the TSC is activated) to complete this checklist in accordance with the following instructions. Obtain radiological information from Health Physics or Chemistry personnel as appropriate.
2)	The NRC will request that an "open line" line be maintained once contact is made on the ENS.
3)	Accelerated notifications to the NRC may be performed for security based events as delineated in abnormal operating procedures for security based events. Accelerated notifications are performed to initiate a more rapid response from federal resources to assist in the mitigation and consequences of the event.

1. Initial Notification

- a. Complete the Figure 2, "Event Notification Worksheet"


NOTES	
1)	If no response on the ENS is obtained, use a commercial line, Southern LINC phone, or cellular phone to call one of the back-up numbers posted on the ENS phone set.
2)	Posted numbers must be dialed as indicated (i.e., (1) must be dialed) whether using a commercial or FTS line to place the call.
3)	Ensure faxing the Event Notification Worksheet does not interfere with the faxing of the Emergency Notification Form for alerting the States and Counties.

- b. Initiate notification on the ENS line as soon as practicable but within 1 hour of emergency declaration. When contact is made, the caller shall state:

[Select one] THIS IS A [☐ DRILL ☐ ACTUAL EMERGENCY] MESSAGE

THIS IS [YOUR NAME] _____
AT [SITE NAME]. _____ PLEASE OBTAIN A COPY
OF THE EVENT NOTIFICATION WORKSHEET AND STAND BY TO
RECEIVE A MESSAGE".

[Select one] THIS IS A [☐ DRILL ☐ ACTUAL EMERGENCY] MESSAGE

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 21 of 47

Checklist 4 - NRC Notification (page 2 of 2)

- c. Provide the information on the "Event Notification Worksheet" verbally to the NRC.
- d. Transmit copy of "Event Notification Worksheet" to NRC via facsimile. The applicable number is posted on/near the designated fax machine. The NRC fax number is **301-816-5151**.

2. Follow-Up Notifications

Keep the NRC updated with all changes. Inform the NRC promptly of any further degradation in the plant conditions, any change from one emergency classification to another, or of the termination of an emergency. Upon activation of the TSC, the TSC Manager assumes the responsibility of communicating with the NRC. These communications are performed by the ENS communicator.

At the request of the NRC, additional communications may be established on the Health Physics Network (HPN).


3 NRC Executive Team Communications

The NRC Executive Team (ET) Director (NRC Chairman or designated Commissioner) will desire to speak periodically with a Licensee management representative (preferably in the EOF). The purpose of this communication is to obtain information for briefing the President of the United States, Congress, Department of Homeland Security (DHS), and the heads of Federal departments and agencies about the situation and for facilitating requests for Federal support in response to the incident.

The following information will need to be prepared to provide the NRC ET:

- What are the Licensee's current top priorities for the site?
- Are there significant uncertainties about any aspect of the event (e.g., is the situation improving or degrading)?
- Does the Licensee need help from the NRC or other Federal agencies?
- Is the Licensee having any communication or staffing problems?

The primary responsibilities of the licensee during an event are to mitigate the accident, secure the facility, classify the event, and make notifications and protective action recommendations to State and local officials. This takes precedence over talking to the NRC ET Director. If taking time to talk to the NRC ET Director interferes with primary responsibilities, the NRC expects that the Licensee's designated Manager will direct a subordinate to take the call. If this is not feasible, the NRC will let the Licensee know when the NRC ET Director would subsequently like to speak with the Licensee's designated representative.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 22 of 47

Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 1 of 8)

CAUTION

ALL TIMES RECORDED/TRANSMITTED ON EMERGENCY NOTIFICATION FORMS SHOULD BE LOCAL TIME RELATIVE TO THE EVENT (I.E., HNP/VEGP: EASTERN, FNP: CENTRAL). DATE AND TIME STAMPS INITIATED ELECTRONICALLY ARE CONTROLLED AUTOMATICALLY.

NOTES

1) In the event that the Control Room staff cannot complete the emergency notification form electronically, transfer of notification responsibilities should be accomplished as soon as practicable to allow for usage of the electronic form. Electronic completion of the EN form is preferred.

2) A hardcopy of the electronic notification form may be obtained at any time when the “print” button is displayed. The printed copy will contain the data populated on the form at the time PRINT is selected.

3) The current copy of the emergency notification form may be saved at any time during the form completion process by selecting **SAVE DRAFT**.

1. **Item 1: MESSAGE NUMBER** is automatically assigned during the transmittal process if using the electronic EN Form tool. Message numbers are sequential for the duration of the Event.
2. **Item 2: INITIAL** will be checked for any notification associated with the declaration and/or change of an emergency classification (including Termination).
3. **Item 3: SITE** - Confirm the correct site is displayed. The site location is automatically completed based on prior selections.

CONFIRMATION PHONE NUMBER: Select from the drop down list

4. **Item 4: EMERGENCY CLASSIFICATION** (For Termination, indicate previous Classification)

EAL NUMBER: Select from the drop down list (For Termination, Select Termination)

EVENT DESCRIPTION: Confirm the brief description of the initiating conditions for the emergency classification declared is auto completed based on the EAL number selected. The event description block cannot be edited. Additional information or information relative to competing events should be included on line 13, REMARKS.

Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 2 of 8)

CAUTION

PARS MUST BE DEVELOPED, APPROVED AND COMMUNICATED ON THE INITIAL GENERAL EMERGENCY NOTIFICATION WITHIN 15 MINUTES OF THE GENERAL EMERGENCY DECLARATION. CHANGES TO PARS ARE TO BE DEVELOPED AND APPROVED BY THE ED WITHIN 15 MINUTES AFTER A CHANGE IN CONDITIONS WARRANTING THE PAR. THE NOTIFICATION OF THE APPROVED PARS WILL BE TRANSMITTED TO STATE AND LOCAL AUTHORITIES WITHIN 15 MINUTES AFTER THE ED'S APPROVAL AS A FOLLOW-UP MESSAGE.

5. Item 5: PROTECTIVE ACTION RECOMMENDATIONS

Parts, ☐, ☐, and ☐ should be completed as delineated in NMP-EP-112. If the recommended protective actions change after the initial GENERAL EMERGENCY declaration is transmitted, a follow-up transmission is required to be initiated within 15 minutes. This information should be obtained from the group responsible for PAR development (e.g., the Dose Assessment Staff in either the TSC or the EOF, as appropriate).

6. Item 6: EMERGENCY RELEASE

NOTES

- 1) Information for items 6, 7, and 9 are obtained from dose assessment (e.g., Dose Assessment Staff in either the TSC or the EOF, as appropriate).**
- 2) IF an effluent monitor is out of service, or failed, THEN an increased attention to detail is required when item 6 and 7 tables are evaluated.**


Use the following table to determine the status of a radiological release:

IF an abnormal plant condition exists

Select the appropriate release status based on the following:

<u>IF:</u>	<u>THEN:</u>
Dose assessment results (automated or manual) have been completed <u>AND</u> indicate an emergency radiological release is underway	Check <input type="checkbox"/> Is Occurring
At least one effluent monitor* is in alarm, <u>AND</u> completed dose projection results (automated or manual) are not available*	Check <input type="checkbox"/> Is Occurring
Conditions exist indicating that a radiological release is occurring based on plant conditions (e.g. SGTR with known path to the environment, Breach of Primary Containment, site specific effluent radiation monitor readings, etc.)	Check <input type="checkbox"/> Is Occurring
Elevated indications do not exist on any effluent monitor*	Check <input type="checkbox"/> None
Dose assessment results (automated or manual) have been completed <u>AND</u> indicate an emergency radiological release is NOT underway	Check <input type="checkbox"/> None
Dose assessment results indicate an emergency radiological release occurred previously <u>AND</u> is no longer underway.	Check <input type="checkbox"/> Has Occurred"

*Applicable monitors are listed in Table 3

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications NMP-EP-111 Version 7.4 Page 24 of 47

Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 3 of 8)


7. Item 7: RELEASE SIGNIFICANCE (Monitors are listed in table 3)

Use the following table to determine the release significance:

IF an abnormal plant condition exists

<u>AND:</u>	<u>THEN:</u>
Elevated indications do not exist on any effluent monitor*	Check <input type="checkbox"/> A. Not applicable
Elevated indications exist on at least one effluent monitor* <u>AND</u> no effluent monitors are in alarm <u>AND</u> completed dose assessment results (automated or manual) are not available	Check <input type="checkbox"/> D Under evaluation
Item 6B or 6C is marked and <u>NO</u> effluent monitor is or has been in alarm <u>OR</u> has exceeded the specified threshold	Check <input type="checkbox"/> B Within normal operating limits
6B or 6C is marked and <u>ANY</u> effluent monitor is or has been in alarm <u>OR</u> has exceeded the specified threshold	Check <input type="checkbox"/> C. Above normal operating limits
Dose assessment results indicate an emergency radiological release occurred previously <u>AND</u> is no longer underway.	Check <input type="checkbox"/> C. Above normal operating limits

*Applicable monitors are listed in Table 3

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 25 of 47

Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 4 of 8)

8. Item 8: EVENT PROGNOSIS

Indicative of plant conditions and the ability to prevent core damage (e.g., improving, stable, or degrading).


Mark box ☐ **A Improving** if mitigation efforts appear successful, progressing toward termination.

Mark box ☐ **B Stable** if escalation to a higher classification is unlikely based on current conditions.

Mark box ☐ **C Degrading** if escalation to a higher emergency classification or PAR change is likely.

NOTES

- 1) All reported meteorological data should be 15 minute average data. Data provided for meteorological parameters should be consistent with data utilized for PARs dose projections reported in line 16, if applicable.
- 2) Inconsistencies in meteorological data utilized for dose projections and the meteorological data reported on emergency notification forms can result in discrepancies in dose assessments performed by SNC and applicable State and Federal agencies.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications
		NMP-EP-111 Version 7.4 Page 26 of 47

Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 5 of 8)


9. Item 9: METEOROLOGICAL DATA

Record the 15-minute averaged “Wind Direction from”, Wind Speed and Precipitation values and check the appropriate “Stability Class (ΔT)”. Sources for meteorological data are listed in Table 4.

FARLEY		
Stability Class	ΔT value	Sigma Theta ($\sigma\theta$)
A	< -1.74	≥ 22.5
B	-1.74 to < -1.56	17.5 to 22.5
C	-1.56 to < -1.38	12.5 to 17.5
D	-1.38 to $< -.46$	7.5 to 12.5
E	$-.46$ to < 1.38	3.8 to 7.5
F	1.38 to < 3.6	2.1 to 3.8
G	≥ 3.6	< 2.1

HATCH				
	Differential Temperature (DT)(°F)			Sigma Theta ($\sigma\theta$)
	Primary Met Tower		Backup Met Tower	Primary & Backup Met Towers
Stability Class	100m-10m	60m-10m	45m-10m	100, 60, 45, & 10 m
A	< -3.1	< -1.4	< -1.2	≥ 22.5
B	≥ -3.1 to < -2.8	≥ -1.4 to < -1.3	≥ -1.2 to -1.1	< 22.5 to ≥ 17.5
C	≥ -2.8 to < -2.4	≥ -1.3 to < -1.1	≥ -1.1 to < -0.9	< 17.5 to ≥ 12.5
D	≥ -2.4 to < -0.8	≥ -1.1 to < -0.4	≥ -0.9 to < -0.3	< 12.5 to ≥ 7.5
E	≥ -0.8 to < 2.4	≥ -0.4 to < 1.1	≥ -0.3 to < 0.9	< 7.5 to ≥ 3.8
F	≥ 2.4 to < 6.5	≥ 1.1 to < 2.9	≥ 0.9 to < 2.5	< 3.8 to ≥ 2.1
G	≥ 6.5	≥ 2.9	≥ 2.5	< 2.1

VOGTLE	
Stability Class	Sigma Theta ($\sigma\theta$)
A	≥ 22.5
B	17.5 to 22.5
C	12.5 to 17.5
D	7.5 to 12.5
E	3.8 to 7.5
F	2.1 to 3.8
G	< 2.1

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 27 of 47

Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 6 of 8)

10. Item 10: DECLARATION or TERMINATION

Enter the time and date (mm/dd/yy) when the **current** emergency classification was declared or terminated.

- 11. Item 11: AFFECTED UNIT(S)** Check the affected unit or “ALL” block if both units are affected by the EAL **indicated in item 4**. For events involving equipment that is common to both units, “ALL” should be selected.

NOTE

The unaffected unit's status is not required for initial notifications. However, the unaffected unit's status is required for follow-up notifications.

12. Item 12: UNIT STATUS

IF the affected unit is operating, THEN indicate the % power. If the affected unit is shutdown, then enter the time (HH:MM) and date of the shutdown.

13. Item 13: REMARKS

Record any current information related to the emergency such as significant events which have occurred, significant equipment which is out of service or malfunctioning, events occurring which may impact offsite resources (i.e., dismissal of non-essential personnel, etc), updates on previously reported information (i.e., status of event which previously occurred) and/or additional information that is of lower importance. This section may also be utilized to clarify the EAL description provided in Item 4.


Corrected information from previous notifications may be clarified in this section. For clarity reference previous notification number and line item as appropriate (i.e., “line 11 of message number 5 incorrectly listed the affected unit as Unit 1. Line 11 of this form reflects the correct information.”

For the electronic form, this section is limited to 275 characters. A character count is provided for reference when completing this section.

For Initial Notification or if radiological release or dose assessment information is not available then go to Step 17 - APPROVAL

NOTE

Lines 14 through 16 (FOLLOW-UP ACTIONS) should be completed and transmitted as soon as dose projection information is available after the onset of any release otherwise, GO to Step 17 - APPROVAL.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 28 of 47

Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 7 of 8)

14. Item 14: RELEASE CHARACTERIZATION

1. **Select** the appropriate release point characterization for the affected unit(s).
 - a. FOR **FNP** and **VEGP**: **Confirm “Ground Level” is checked.** This selection is auto-selected based on SITE selection of FNP or VEGP.

b. FOR **HNP** ONLY

Mark box ☐ **A** if the release is **ELEVATED (through the main stack)**.

Mark box ☐ **B** if the release is **MIXED** (combination of elevated and ground level release)

Mark box ☐ **C** if the release is **GROUND** (through the reactor building vents)

Consult with the dose assessment staff for the completion of this item.

IF the release type is **NOT** known, assume that the release is **ELEVATED**

FOR ALL PLANTS

2. Indicate the units of measurement of the release (Ci, Ci/sec or μ Ci/sec), consult dose assessment.
3. Record the Noble Gas, Particulate and Iodine values from the latest available dose projection. Values reported should be consistent with those contained on the dose projection utilized in the PAR evaluation, as appropriate.
4. Check the appropriate block to indicate the status of Airborne or Liquid release(s) by entering the start time (HH:MM) and if applicable the time (HH:MM) and date (mm/dd/yy) the release stopped. Use the time zone local to the plant.

15. Item 15: PROJECTION PARAMETERS

Enter the duration of the dose projection period and the estimated release duration from the latest available dose projection. The value reported should be consistent with that utilized in the PAR evaluation. The default dose PROJECTION PERIOD and ESTIMATED RELEASE DURATION are 4 hours. ACCIDENT TYPEs are provided in Table 2.


16. Item 16: PROJECTED DOSE

IF Item 7, RELEASE SIGNIFICANCE, is marked “A” or “B”,

THEN Enter "less than 0.02 mrem (<0.02) for “TEDE” and “thyroid CDE” dose for the site boundary

OTHERWISE Enter the data provided from the dose assessment staff.

Enter the projected Total Effective Dose Equivalent (TEDE) and Committed Dose Equivalent (CDE) thyroid dose (in mRem) at site boundary, 2, 5, and 10 miles distances provided by the dose assessment staff.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 29 of 47

Attachment 1 Part 1 – Guidance for Initial EN Form Completion (page 8 of 8)

17. Item 17: Review and Approval

a. Manual Form - IF possible, obtain a peer check of the completed form. The Emergency Director **must** approve the form. Verbal authorization may be given to a delegate such as the EOF Manager to sign on behalf of the ED.

b. Electronic Form

NOTE

Obtain concurrence and approval of emergency information from the ED (in the Control Room or TSC) or the EOF Manager (in the EOF), as appropriate, **PRIOR** to transmission of any message to offsite authorities. Any changes to the form after approval will require the approver's concurrence. Approval may be verbal or obtained by signature of a hardcopy of the emergency notification form.

- Notified By:** Enter the name of the individual completing the emergency notification form.
- Approved by:** Enter the name of the ED or EOF Mgr approving the emergency notification form.
- Time/Date:** Enter the time (**HH:MM**) and date (**mm/dd/yy**) the emergency notification form is approved. The specified format is required to proceed.
- Select **Validate** and follow the instructions provided to correct any Items identified during the validation process.

Following correction of any identified Items, re-select **Validate**.


- Select **Print** to obtain a hardcopy for review/approval. For verbal approvals, no hardcopy is required.
- Obtain final approval of the ED or EOF Manager, as appropriate.

NOTES

- APPROVAL is available only after satisfactory VALIDATION**
- When completing the notification form electronically, no changes may be made to the current form following electronic approval. A follow-up notification must be completed to convey the changed information.**

7. Select **Approval**

WebEOC will prompt you to confirm your approval of the form. Select OK to approve or cancel to continue without approval.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 30 of 47


Attachment 1 Part 2 – Guidance for Follow-Up EN Form Completion (page 1 of 1)

FOLLOW-UP ACTIONS

NOTES
<p>1) A follow-up message containing pertinent radiological release information (including lines 14 through 16) should be started promptly after an initial notification that indicates a release is occurring or has occurred.</p> <p>2) If agreed upon by State and Locals, a Follow-up emergency notification message requirement frequency can be changed.</p>

1. Provide follow-up emergency notification messages when:
 - Plant conditions have changed significantly
OR
 - Protective Action Recommendations (PARs) are changed (15 minute notification required)
OR
 - Once every sixty (60) minutes

2. Complete or direct the completion of Figure 1, Emergency Notification Form using Attachment 1, Part 1 for guidance, as needed.
 - a. Review items 1 through 13 and update as necessary. Following review and update, proceed to the next step.
 - b. Complete items 14 through 17, as appropriate.

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 31 of 47

Attachment 2 – NRC Event Notification Worksheet (page 1 of 2)


GUIDANCE FOR COMPLETING FIGURE 2 NRC Event Notification Worksheet

General instructions for completing the NRC Event notification worksheet are provided below:

Not all of the form is required to be completed; only the information that is available at the time is required to be completed. In the event that information is not available, the NRC should be informed that this information is not available at the current time and that the missing information will be provided when it becomes available.

FORM 361 Page One


- **EN#** - the event number assigned by the NRC, request this number from the NRC and record it on the worksheet.
- **NOTIFICATION TIME** - the time that the official notification using this figure was made to the NRC. Notification Time should be consistent with the location reporting the event (HNP/VEGP Eastern, FNP Central).
- **UNIT** number - Fill in appropriate or both as applicable.
- **NAME OF CALLER** - the person talking to the NRC at the time that the information on this form is read or faxed to the NRC
- **CALL BACK** - provide a phone number near the ENS communicator work location.
- **EVENT DATE and TIME** - is the declaration time of the current event. Event date and time should be consistent with the location reporting the event (HNP/VEGP Eastern, FNP Central).
- **POWER/MODE BEFORE and AFTER** - The before information is the power and mode just prior to the current declaration. The after information is the current power and mode
- **EVENT CLASSIFICATION** - the appropriate block for the declared emergency should be checked. Other blocks in that section may be checked if directed by the Emergency Director.
- **DESCRIPTION** - should be similar to the description provided in Figure 1 when notifying offsite agencies of the emergency.
- **NOTIFICATIONS** - complete the information requested. Refer to the facility management for clarification if the answer is not readily known.
- **ANYTHING UNUSUAL OR NOT UNDERSTOOD** - indicate plant response that was not as expected or cannot currently be explained. If YES is checked provide explanation in description section.
- **DID ALL SYSTEMS FUNCTION AS REQUIRED** - check NO if safety systems or systems that are relevant to the event did not perform required function. If NO is checked provide explanation in description section.
- **MODE OF OPERATION UNTIL CORRECTED** - fill in TS mode number.
- **ESTIMATED RESTART DATE** - leave blank unless a firm date is known.
- **ADDITIONAL INFORMATION ON BACK** - should be checked NO unless the description is too large to fit on page 1 description section

Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 32 of 47

Attachment 2 – NRC Event Notification Worksheet (page 2 of 2)

GUIDANCE FOR COMPLETING FIGURE 2 NRC Event Notification Worksheet

- **RADIOLOGICAL RELEASES** - check the applicable boxes and complete the data as appropriate **ONLY** if an emergency radiological release is in progress that by itself would require an emergency classification.
- **LIQUID RELEASE / GASEOUS RELEASE** – one or both based on releases in progress
- **UNPLANNED RELEASE** or **PLANNED RELEASE** - check only one based on what caused the release
- **ONGOING** or **TERMINATED** - check ongoing unless all emergency releases are terminated.
- **MONITORED** or **UNMONITORED** - Check monitored unless the release is known to be unmonitored by one of the effluent monitors.
- **OFFSITE RELEASE** and **T. S. EXCEEDED** - Check both boxes if the release by itself would require any emergency classification bases on ODCM or EDCM.
- **RM ALARMS** - Check this box if any Table 3 monitor is in alarm.
- **AREAS EVACUATED** - Check this box if on site areas have been evacuated due to a radiation problem.
- **PERSONNEL EXPOSED OR CONTAMINATED** - Check this box if the exposure or contamination is above 10 CFR 20 limits.
- **OFFSITE PROTECTIVE ACTIONS RECOMMENDED** - Check this box if PARs have been recommended and transmitted to the states.
- **RELEASE RATE** - Complete the release rate information if it has already been calculated using EDCM or ODCM calculations. It is not necessary to perform calculations just to complete this form.
- **% of TS – this item is not applicable.** Mark this section N/A.
- **HOO GUIDE** - information that the Headquarters Operations Officer (HOO) would use. It is not for SNC use.
- **RADIATION MONITOR READINGS** complete the form for those monitors that are in alarm corresponding to the requested monitor. Pertinent monitors are provided in Table 3, Effluent Radiation Monitors.
- **ALARM SETPOINTS** - Complete the form for any radiation monitor reading that is entered. Refer to Table 3.
- **TS LIMITS FOR RADIATION MONITORS IN ALARM** – this item is not applicable. Mark N/A.
- **RCS OR SG TUBE LEAKS** Fill in the appropriate data if there is a leak or rupture in progress that exceeds technical specification limits as appropriate.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications NMP-EP-111 Version 7.4 Page 33 of 47

Attachment 3 - WebEOC Login and Usage Guidelines (page 1 of 2)

1. Login to WebEOC

<http://webeoc.southernco.com>

a. In the first dialog box:

1. Jurisdiction: Specific Site (Farley, Hatch or Vogtle)
2. USER: ENN Communicator
3. Password: ENN (All CAPS)
4. Select 'OK'

b. In the second dialog box:

1. Position: ENN Communicator
2. Incident:
 - For Actual Event: select 'Actual Event'
 - For Drill: select 'Drill@ [Specific site] [mm/dd/yy]'
 - For Training select 'ENN Training' OR incident provided by instructor
3. Select 'OK'

c. In the WebEOC control panel


1. Select "EN Form" from the list in the "Plugins" section

NOTE

The designated WebEOC computer should be logged in and in standby starting at this point.

2. General information for EN form completion:

- Initial site selection for the EN form customizes available options based on site specific criteria including access to prior notifications. Ensure the correct site is selected.
- Authentication codes are utilized by the State of South Carolina to verify the source of information being transmitted. Numerical codes are provided by the agency requesting authentication and cross referenced to the corresponding code on the authentication code list. Authentication is only applicable at VEGP. The authentication code list is published in the VEGP Emergency response telephone directory and is programmed into WebEOC to facilitate the authentication process. Authentication is performed upon request by agencies receiving notifications for a VEGP event.
- Message numbers are automatically entered in sequential order when the message 'Approve/Send' button is pressed.
- NOTIFICATION TIME, DATE is auto completed during the receipt verification process.

Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications NMP-EP-111 Version 7.4 Page 34 of 47

Attachment 3 - WebEOC Login and Usage Guidelines (page 2 of 2)

- AUTHENTICATION # is auto completed when the 'Approve' button is selected if authentication was performed during the notification process.
- PAR's are required for a General Emergency and cannot be selected for other Emergency classifications.
- Event Description is auto filled in when EAL # is selected from the dropdown list. This description cannot be modified.
- Release Characterization is partially completed based on the Plant selected. FNP and VEGP are defaulted to a ground level release. HNP must select elevated or ground level release. The appropriate units of units of measurement must be selected for all sites.
- Do not type '/' when inputting dates or ':' when inputting time. Enter the numbers sequentially. The form will auto complete the needed punctuation.
- Use the Validate button to check the form for completeness.
- Completing validation is a prerequisite to Approval
- Pressing Print at any time will bring up a standard printing dialog box. The form can be printed at any stage of completion.
- Clicking the 'Approval' button automatically sends the completed EN Form to all site applicable state and local agencies as well as SNC emergency response facilities and any other location with access to WebEOC.
- Clicking the 'Approval' button will create a new form for recording notification of Government Agencies.


Southern Nuclear Operating Company		
	Emergency Implementing Procedure Emergency Notifications	NMP-EP-111 Version 7.4 Page 35 of 47

Figure 1 – Emergency Notification Form (page 1 of 2)

1. ☐ DRILL ☐ ACTUAL EVENT MESSAGE # _____

2. ☐ INITIAL ☐ FOLLOW-UP NOTIFICATION: TIME _____ DATE ____/____/____ AUTHENTICATION # _____

3. SITE: _____ Confirmation Phone # _____

4. EMERGENCY CLASSIFICATION: ☐ UNUSUAL EVENT ☐ ALERT ☐ SITE AREA EMERGENCY ☐ GENERAL EMERGENCY

BASED ON EAL# _____ EAL DESCRIPTION: _____

5. PROTECTIVE ACTION RECOMMENDATIONS: ☐ NONE

☐ EVACUATE _____

☐ SHELTER _____

☐ Advise Remainder of EPZ to Monitor Local Radio/TV Stations/Tone Alert Radios for Additional Information and Consider the use of KI (potassium iodide) in accordance with State plans and policy.

☐ OTHER _____

6. EMERGENCY RELEASE: ☐ None ☐ Is Occurring ☐ Has Occurred

7. RELEASE SIGNIFICANCE: ☐ Not applicable ☐ Within normal operating limits ☐ Above normal operating limits ☐ Under evaluation

8. EVENT PROGNOSIS: ☐ Improving ☐ Stable ☐ Degrading

9. METEOROLOGICAL DATA: Wind Direction from _____ degrees* Wind Speed _____ mph*

(*May not be available for Initial Notifications)* Precipitation _____* Stability Class* ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

10. ☐ DECLARATION ☐ TERMINATION Time _____ Date ____/____/____

11. AFFECTED UNIT(S): ☐ 1 ☐ 2 ☐ All

12. UNIT STATUS: ☐ U1 _____ % Power Shutdown at Time _____ Date ____/____/____

(Unaffected Unit(s) Status Not Required for Initial Notifications) ☐ U2 _____ % Power Shutdown at Time _____ Date ____/____/____

13. REMARKS: _____

FOLLOW-UP INFORMATION (Lines 14 through 16 Not Required for Initial Notifications)

EMERGENCY RELEASE DATA NOT REQUIRED IF LINE 6 A IS SELECTED.

14. RELEASE CHARACTERIZATION: TYPE: ☐ Elevated ☐ Mixed ☐ Ground UNITS: ☐ Ci ☐ Ci/sec ☐ µCi/sec

MAGNITUDE: Noble Gases: _____ Iodines: _____ Particulates: _____ Other: _____

FORM: ☐ Airborne Start Time _____ Date ____/____/____ Stop Time _____ Date ____/____/____

☐ Liquid Start Time _____ Date ____/____/____ Stop Time _____ Date ____/____/____

15. PROJECTION PARAMETERS: Projection period: _____ Hours Estimated Release Duration _____ Hours

Projection performed: Time _____ Date ____/____/____ Accident Type: _____

16. PROJECTED DOSE: DISTANCE TEDE (mrem) Adult Thyroid CDE (mrem)

Site boundary		
2 Miles		
5 Miles		
10 Miles		

17. APPROVED BY: _____ Title _____ Time _____ Date ____/____/____

NOTIFIED BY: _____

RECEIVED BY: _____ Time _____ Date ____/____/____

(To be completed by receiving organization)


Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111
			Version 7.4 Page 36 of 47

Figure 1 – Emergency Notification Form (page 2 of 2)

GOVERNMENT AGENCIES NOTIFIED		
Record the name, date and agencies notified:		
1.	(name)	
	(date/time)	(agency)
2.	(name)	
	(date/time)	(agency)
3.	(name)	
	(date/time)	(agency)
4.	(name)	
	(date/time)	(agency)
5.	(name)	
	(date/time)	(agency)
6.	(name)	
	(date/time)	(agency)
7.	(name)	
	(date/time)	(agency)


Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications
		NMP-EP-111 Version 7.4 Page 37 of 47

Figure 2 - NRC Notification Form (page 1 of 2)

NRC FORM 381 (12-2000)		REACTOR PLANT EVENT NOTIFICATION WORKSHEET				U.S. NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER	
		EN #					
NRC OPERATION TELEPHONE NUMBER: PRIMARY – 301-818-5100 or 800-532-3489*, BACKUPS -- [1st] 301-951-0550 or 800-449-3694*, [2nd] 301-415-0550 and [3rd] 301-415-0553 *Licensees who maintain their own ETS are provided these telephone numbers.							
NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER		CALL BACK #		
EVENT TIME & ZONE	EVENT DATE	POWER/MODE BEFORE		POWER/MODE AFTER			
EVENT CLASSIFICATIONS		1-Hr. Non-Emergency 10 CFR 50.72(b)(1)		(v)(A) Safe S/D Capability		AINA	
GENERAL EMERGENCY	GEN/AEC	TS Deviation		ADEV		(v)(B) RHR Capability AINB	
SITE AREA EMERGENCY	SIT/AEC	4-Hr. Non-Emergency 10 CFR 50.72(b)(2)		(v)(C) Control of Rad Release		AINC	
ALERT	AL/AEC	(i) TS Required S/D		ASHU		(v)(D) Accident Mitigation AIND	
UNUSUAL EVENT	UNI/AEC	(iv)(A) ECCS Discharge to RCS		ACCS		(xii) Offsite Medical AMED	
50.72 NON-EMERGENCY (see next columns)		(iv)(B) RPS Actuation (scram)		ARPS		(xiii) Loss Comm/Asmt/Resp ACOM	
PHYSICAL SECURITY (73.71)	DDDD	(xi) Offsite Notification		APRE		60-Day Optional 10 CFR 50.73(a)(1)	
MATERIAL/EXPOSURE	B???	8-Hr. Non-Emergency 10 CFR 50.72(b)(3)		Invalid Specified System Actuation		AINV	
FITNESS FOR DUTY	HFIT	(ii)(A) Degraded Condition		ADEG		Other Unspecified Requirement (Identify)	
OTHER UNSPECIFIED REQMT. (see last column)		(ii)(B) Unanalyzed Condition		AUNA		NONR	
INFORMATION ONLY	NINF	(iv)(A) Specified System Actuation		AESF		NONR	
DESCRIPTION							
Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on back)							
NOTIFICATIONS	YES	NO	WILL BE	ANYTHING UNUSUAL OR NOT UNDERSTOOD? <input type="checkbox"/> YES (Explain above) <input type="checkbox"/> NO			
NRC RESIDENT				DID ALL SYSTEMS FUNCTION AS REQUIRED? <input type="checkbox"/> YES <input type="checkbox"/> NO (Explain above)			
STATE(s)							
LOCAL							
OTHER GOV AGENCIES				MODE OF OPERATION UNTIL CORRECTED		ESTIMATED RESTART DATE	
MEDIA/PRESS RELEASE						ADDITIONAL INFO ON BACK <input type="checkbox"/> YES <input type="checkbox"/> NO	


Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications
		NMP-EP-111 Version 7.4 Page 38 of 47

Figure 2 - NRC Notification Form (page 2 of 2)

ADDITIONAL INFORMATION						
RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
LIQUID RELEASE	GASEOUS RELEASE	UNPLANNED RELEASE	PLANNED RELEASE	ONGOING	TERMINATED	
MONITORED	UNMONITORED	OFFSITE RELEASE	T. S. EXCEEDED	RM ALARMS	AREAS EVACUATED	
PERSONNEL EXPOSED OR CONTAMINATED		OFFSITE PROTECTIVE ACTIONS RECOMMENDED			*State release path in description	
	Release Rate (Ci/sec)	% T. S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T. S. LIMIT	HOO GUIDE
Noble Gas		N/A	0.1 Ci/sec		N/A	1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium and dissolved noble gases)			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						
	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER	
RAD MONITOR READINGS						
ALARM SETPOINTS						
% T. S. LIMIT (if applicable)						
RCS OR SG TUBE LEAKS: CHECK OR FILL IN APPLICABLE ITEMS: (specific details/explanations should be covered in event description)						
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc.)						
LEAK RATE	UNITS: gpm/gpd	T. S. LIMITS	SUDDEN OR LONG-TERM DEVELOPMENT			
LEAK START DATE	TIME	COOLANT ACTIVITY AND UNITS:	PRIMARY	SECONDARY		
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL						
EVENT DESCRIPTION (Continued from front)						


Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111 Version 7.4 Page 39 of 47

Figure 3 – Flowchart for Initial Emergency Notifications


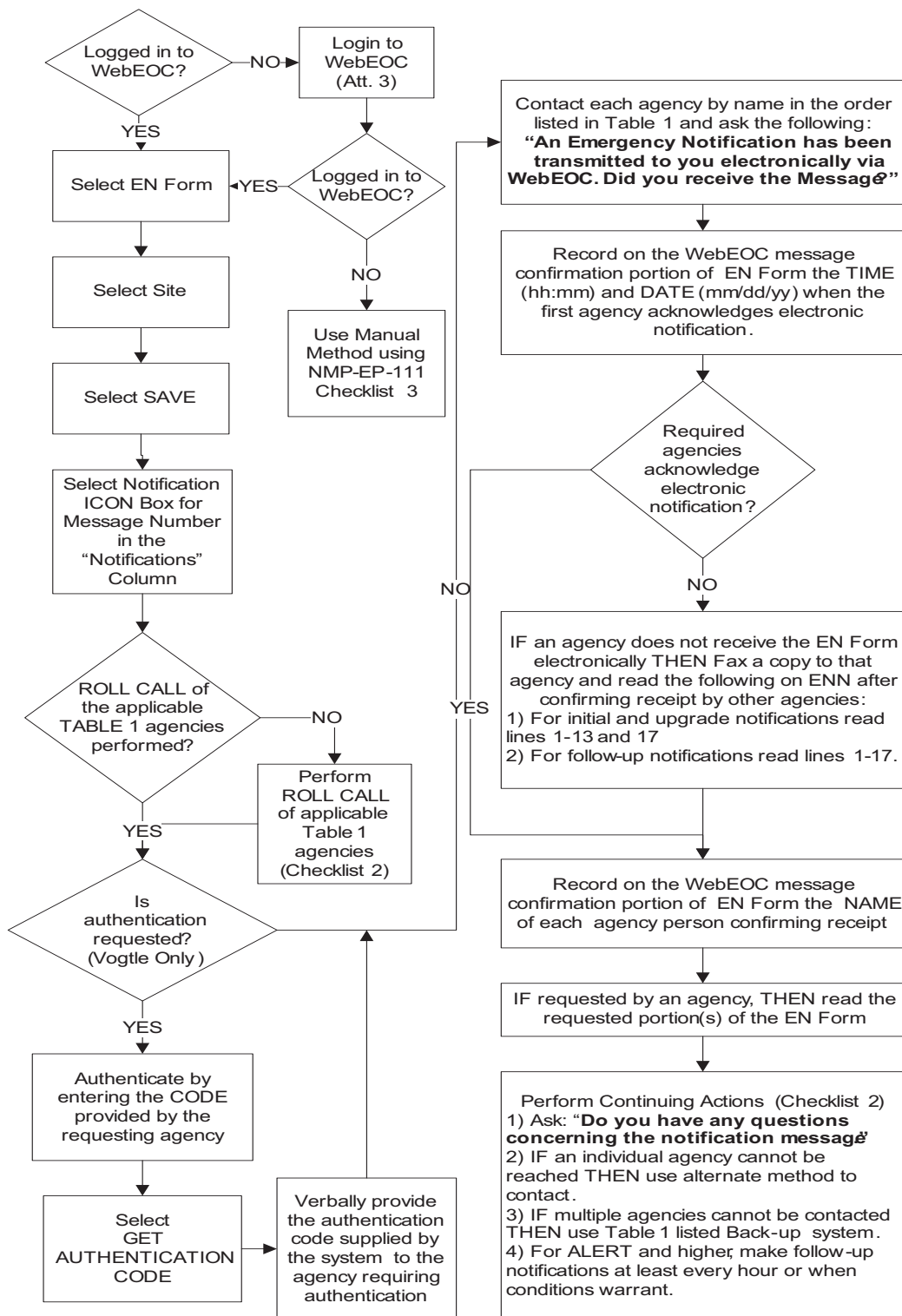
Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111 Version 7.4 Page 40 of 47

Figure 4 – Flowchart for Follow-Up Emergency Notifications

Figure 5 – Emergency Notification Receipt Confirmation




Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111 Version 7.4 Page 42 of 47

Table 1 - Applicable Agencies for SNC Emergency Notification (page 1 of 3)

Farley:

1. Primary Notification System: ENN – SoLINC
2. Back-up Communication systems –
(1) Comlabs, (2) Commercial Telephone, (3) Radio, (4) Satellite phone

INITIAL	ACK	FOLLOW-UP	CONTACT NAME Date / Time
Confirmation is required for at least one agency from <u>Each</u> state and one agency from <u>Each</u> county. 24 hour warning points should be contacted to prior attempting to contact non 24 hour warning points. ** Denotes agencies that are 24 Hour Warning Points			
Alabama EMA (AEMA)** ENN (1306), OPX (6619), (205-280-2312, 205-280-2310)	<input type="checkbox"/>	Alabama EMA	_____ _____/_____ _____
Alabama Radiation Control (ARC) at Montgomery EOC ENN (1305), OPX (6628), (334-206-5391), (334-324-0076)	<input type="checkbox"/>	ARC at Montgomery EOC	_____ _____/_____ _____
Alabama Radiation Control at Alabama Forward EOC ENN (1307), OPX 6621), (334-793-1565)	<input type="checkbox"/>	ARC at Alabama Forward EOC	_____ _____/_____ _____
Houston County EMA or 911 Center** ENN (1307), OPX (6621) (334-794-9720, 334-793-9655, 334-677-4807/4808)	<input type="checkbox"/>	Houston County EMA	_____ _____/_____ _____
Georgia EMA at Atlanta EOC** ENN (1304), OPX (6629) (404-635-7200)	<input type="checkbox"/>	Georgia EMA at Atlanta EOC	_____ _____/_____ _____
Georgia EMA at Georgia Forward EOC ENN (1308) OPX (6626), (229-723-4826)	<input type="checkbox"/>	Georgia EMA at Georgia Forward EOC	_____ _____/_____ _____
Early County EMA or 911 Center** ENN(1308) OPX (6622) (229-723-3577, 3578, 4826)	<input type="checkbox"/>	Early County EMA	_____ _____/_____ _____

** Denotes agency is a 24 Hour Warning Point


Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111 Version 7.4 Page 43 of 47

Table 1 - Applicable Agencies for SNC Emergency Notification (page 2 of 3)

Hatch:

1. Primary Notification System: ENN – SoLINC
2. Back-up Communication systems –
(1) Commercial Telephone, (2)Radio, (3) Satellite phone

INITIAL	ACK	FOLLOW-UP	CONTACT NAME Date / Time
Appling County 911 Center** (912-367-8111) EMA (912-367-8170)	<input type="checkbox"/>	Appling County EMA or 911 Center	_____ _____/_____ _____
GEMA Georgia Emergency Management** ENN (1304), OPX (8-276-6629) Commercial (404-635-7200)	<input type="checkbox"/>	Georgia EMA (GEMA)	_____ _____/_____ _____
Jeff Davis County 911 Center** (912-375-6621) EMA (912-375-6628)	<input type="checkbox"/>	Jeff Davis County EMA or 911 Center	_____ _____/_____ _____
Tattnall County 911 Center** (912-557-8800) EMA (912-557-6820/1911)	<input type="checkbox"/>	Tattnall County EMA or 911 Center	_____ _____/_____ _____
Toombs County 911 Center** (912-526-9292) EMA (912-526-6021)	<input type="checkbox"/>	Toombs County EMA or 911 Center	_____ _____/_____ _____

** Denotes agency is a 24 Hour Warning Point


Southern Nuclear Operating Company			
	Emergency Implementing Procedure	Emergency Notifications	NMP-EP-111 Version 7.4 Page 44 of 47

Table 1 - Applicable Agencies for SNC Emergency Notification (page 3 of 3)

Vogtle

1. Primary Notification System: ENN – ComLab
2. Back-up Communication systems –
(1) Commercial Telephone, (2) ENN Conf Bridge, (3) SoLINC, (4) Radio

INITIAL	ACK	FOLLOW-UP	CONTACT NAME Date / Time
Burke County EMA or 911 Center** (706-554-6651)	<input type="checkbox"/>	Burke EMA or 911 Center	_____ _____/_____
Georgia Emergency Management (GEMA)** ENN (1304), OPX (8-276- 6629) (404-635-7200)	<input type="checkbox"/>	Georgia EMA (GEMA)	_____ _____/_____
South Carolina Emergency Management Division (SC-EMD)** (803-737-8500)	<input type="checkbox"/>	South Carolina EMD (SC-EMD)	_____ _____/_____
Savannah River Site (SRS)** 803-725-3333	<input type="checkbox"/>	Savannah River Site (SRS)	_____ _____/_____
Aiken County EMA or 911 Center** (803-642-1751)	<input type="checkbox"/>	Aiken County EMA or 911 Center	_____ _____/_____
Barnwell County EMA or 911 Center** (803-541-1078)	<input type="checkbox"/>	Barnwell County EMA or 911 Center	_____ _____/_____
Allendale County EMA or 911 Center** (803-584-8151)	<input type="checkbox"/>	Allendale County EMA or 911 Center	_____ _____/_____

**** Denotes agency is a 24 Hour Warning Point**


Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications NMP-EP-111 Version 7.4 Page 45 of 47

Table 2 - Accident Types

Farley

0	Unknown
1	FUEL HANDLING (1)
2	WGDT RUPTURE (2)
5	LOCA NORMAL RCS W/ SPRAY (5)
6	LOCA/SGTR NORMAL RCS W/O SPRAY (6)
7	LOCA FAILED FUEL W/ SPRAY (7)
8	LOCA/SGTR FAILED FUEL W/O SPRAY (8)
9	LOCA MELTED FUEL W/ SPRAY (9)
10	LOCA/SGTR MELTED FUEL W/O SPRAY (10)

Hatch

0	UNKNOWN
1	REACTOR COOLANT FILTERED (1)
2	REACTOR COOLANT UNFILTERED (2)
3	GAP RELEASE FILTERED (3)
4	GAP RELEASE UNFILTERED (4)
5	FUEL MELT FILTERED (5)
6	FUEL MELT UNFILTERED (6)

Vogtle

0	Unknown
1	LOCA (1)
2	WGDT failure (2)
3	CR EJECTION (3)
4	LOCKED ROTOR(4)
5	STEAM LINE BREAK (5)
6	STEAM GENERATOR TUBE RUPTURE(6)
7	FUEL HANDLING (IN FUEL HANDLING BLDG)(7)
8	FUEL HANDLING (IN CONTAINMENT BUILDING) (8)


Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications NMP-EP-111 Version 7.4 Page 46 of 47

Table 3 – Effluent Radiation Monitors

Farley

Description	Monitor	Threshold
Plant Vent Gas	RE-0014 (cpm)	N/A
Plant Vent Monitor	RE-22 (cpm)	N/A
Plant Vent SPING 4 Noble Gas (Accident Range)	RE-0029B-NG (μCi/cc)	N/A
Plant Vent SPING 4 Iodine	RE-0029B-I2 (μCi/cc)	N/A
Plant Vent SPING 4 Particulates	RE-0029B-P (μCi/cc)	N/A
SG A Atmospheric Relief	RE0060A SG A (R/hr)	N/A
SG B Atmospheric Relief	RE0060B SG B (R/hr)	N/A
SG C Atmospheric Relief	RE0060C SG C (R/hr)	N/A
Aux Feed Turbine Exhaust	RE0060D (R/hr)	N/A
SJAE Exhaust Low Range SJAE Exhaust Mid Range SJAE Exhaust High Range (Accident Range)	RE0015A (cpm) RE0015B (μCi/cc) RE0015C (R/hr)	N/A
Steam Generator Blowdown	RE-23B (uCi/cc)	N/A
Liquid Waste Processing Discharge	RE-18 (uCi/cc)	N/A

Hatch

Description	Monitor	Threshold
Main Stack Normal Range	1D11- K600 A/B (cps)	61 cps
Main Stack Accident Range	1D11- R631 (μCi/cc)	on scale
U1 Reactor Building Vent Normal Range	1D11- K619 a/b (cpm)	152 cpm
U1 Reactor Building ACCIDENT Range	1D11- R631 (μCi/cc)	on scale
U2 Reactor Building Vent Normal Range	2D11- K636 a/b (cpm)	152 cpm
U2 Reactor Building Vent ACCIDENT Range	2D11- R631 (μCi/cc)	on scale

Vogtle

Description	Monitor	Threshold
Plant Vent	RE-12444C (μCi/cc)	N/A
	RE-12444D (μCi/cc)	N/A
	RE-12444E (μCi/cc)	N/A
Steam Jet Air Ejector	RE-12839C (μCi/cc)	N/A
	RE-12839D (μCi/cc)	N/A
	RE-12839E (μCi/cc)	N/A
Radwaste Processing Facility	RE-16980A (μCi/cc)	N/A


Southern Nuclear Operating Company		
	Emergency Implementing Procedure	Emergency Notifications
		NMP-EP-111 Version 7.4 Page 47 of 47

Table 4 – Meteorological Data Sources

NOTE

Wind speed may be provided in Knots by some sources. Knots may be converted to statute miles per hour by multiplying Knots by 1.15. [1 knot = 1.15 miles/hour]

FARLEY

- Integrated Plant Computer (IPC)
- Met Tower 10 Meters (Primary and Secondary)
- Met Tower 45.7 Meters (Primary and Secondary)
- Send individual to meteorological towers to call back data.
- When Met Tower Instrumentation is unavailable, Stability Class may be required to be manually calculated IAW FNP-0-EIP-9.3 using weather sources below.
 - Dothan-Houston County Air Traffic Control Tower - 334-983-3133 (06:00-21:00 Weekdays)
- 334-983-1110 (08:00-20:00 Weekends)
 - FAA Flight Service - 800-992-7433
 - National Weather Service, Tallahassee, FL - 850-942-9398
 - National Weather Service, Birmingham, AL - 205-664-3010
 - National Weather Service, Mobile, AL - 334-633-6443(Voice Line)
- 334-633-0921 (Voice Line)
- 334-633-2471(Automated Line)
- 334-633-7342 (Automate Line)

HATCH

- Safety Parameter Display System (SPDS)
- CDAS
- Primary Met Tower 100 Meters Control Room Recorders
- Secondary Met Tower 10 Meters Control Room Recorders
- Met MIDAS in Simulator building
- Send individual to meteorological towers to call back data.
- National Weather Service (NWS) (Jacksonville, FL) 904-741-6864

VOGTLE

- Integrated Plant Computer (IPC)
- Primary Met Tower 10 Meters
- Secondary Met Tower 10 Meters
- Send individual to meteorological towers to call back data.
- Savannah River Site Emergency Operations Center 803-725-1911, 803-725-3333
- National Weather Service (NWS) (Columbia, SC) 803-822-8037